

TITLE

The Initial State of Zulu L2 Syntax: A Study of the Emergence of the CP Projection in
the Zulu Grammar of Native English Speakers.

Sibusisiwe Dube

PhD

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DECLARATION

I hereby declare that this thesis is my own original work of my own execution and authorship.

19 September 1998.

Sibusisiwe Dube.

DEDICATION

TO

*My daughter, Patience Nonhlanhla
Whose Presence in My Life has made life a Million Times Better*

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Abbreviations.

A	Adjective
Agr	Agreement
AgrO	Object Agreement
Agr _o P	Object agreement phrase
AgrP	Agreement Phrase
AgrS	Subject agreement
AP	Adjunction Prohibition Principle
Asp	Aspect
Caus	Causative
Comp	Complementizer
CP	Complementizer Phrase
Det	Determiner
DH	Deficit Hypotheses
DP	Determiner Phrase
ECM	Exceptional Case Marking
FC	Functional Category
FCH	Full Competence Hypothesis
FCs	Functional Categories
FP	Functional Projection
FPH	Functional Parameterisation Hypothesis
FT/FA	Full Transfer and Full Access Hypothesis
FUH	Functional Underspecification Hypothesis
GDH	Gradual development Hypothesis
HBU	Historically Black Universities
HWAU	Historically White Afrikaans Universities
HWEU	Historically White English Universities
HWU	Historically White Universities
IHS	Initial Hypothesis of Syntax
IL	Interlanguage
ILG	Interlanguage Grammar
INFL	Inflection
IP	Inflection Phrase
L1	First language acquisition
L2	Second language
LF	Logical Form

LPH	Lexical Parameterisation Hypothesis
MP	Minimalist Programme
MTH	Minimal Trees Hypothesis
N	Noun
Neg	Negative/negator
NP	Noun Phrase
OSV	Object-Subject-Object
OV	Object-Verb
OVS	Object-Verb-Subject
Part	Particle
Past	Past Tense
Perf	Perfect Tense
PF	Phonological Form
PLD	Positive Linguistic Data
PP	Principles and Parameters
Q	Question particle
SAI	Subject-Aux-Inversion
SAVO	Subject-Adverb-Verb Object
SLA	Second language acquisition
SOV	Subject-Object-Verb
SVAO	Subject-Verb-Adverb-Object
SVO	Subject-Verb-Object
T	Tense
TL	Target Language
Tns	Tense
Top	Topic
TopP	Topic Phrase
TP	Tense Phrase
UG	Universal Grammar
V	Verb
V2	Verb Second
VFH	Valueless Features Hypothesis
VO	Verb Object
VOS	Verb-Object-Subject
VP	Verb Phrase
VSO	Verb-Subject-Object

VY Vainikka & Young-Scholten
ZSL Zulu Second Language
ZSLA Zulu Second Language Acquisition

ABSTRACT

This thesis is concerned with the nature of developing interlanguage grammars from the initial state up to ultimate attainment. Specifically, the investigation focuses on the availability of functional categories in initial state grammars and how these evolve up to ultimate attainment. We assume that the special character of second language acquisition arises from the fact that at the start of the second language acquisition process, parameters have already been set to the values required by the learner's primary language. We assume that parameters are associated with properties of functional categories. We therefore view parametric variation in terms of differences in the properties of functional categories. We then investigate whether the functional geometry of the learner's first language has an influence at the initial state of second language acquisition. This inquiry is conducted within the Principles and Parameters model. As second language research in recent years has shown that interlanguage grammars are not wild grammars in that these are constrained by Universal Grammar, we also assume that the process of second language acquisition is guided by Universal Grammar. In particular, we prescribe to the view that Universal Grammar is continually accessible in adult second language acquisition. As second language learners have a fully developed functional architecture of their first language grammar, the properties of these functional categories may be incompatible with those required in the second language. We therefore hypothesised that the initial state grammar for second language learners constitutes the final state of their first language. We view second language acquisition as a "failure-driven" process. Thus where the current interlanguage grammar cannot process the second language positive input data, restructuring occurs. We depart from the popular view that the availability of positive evidence necessarily guarantees rapid acquisition. We assume that subsequent development is determined by the hypothesis formulated at the initial state of second language acquisition and that this hypothesis determines the manner in which the input is analysed. We assume that the initial hypothesis the learner makes about the second language is that, from a structural syntactic point of view, the second language is = to the first language. If, on the basis of this hypothesis, the second language input is misanalysed, we predict that the developing interlanguage grammar never recovers from this misanalysis leading to a divergent competence at ultimate attainment. In order to put these views to test, a cross-sectional study of the grammaticality intuitions of English speaking learners of Zulu was conducted at five different proficiency levels. An acceptability judgement task was constructed in order to assess the acceptability of sentences which were diagnostic of the status of functional projections in their developing interlanguage grammar. The functional projection whose availability was the subject of this inquiry was the CP. The constructions represented in the test were tensed C and topicalization both of which implicate a CP projection. The results of the study showed that most of those sentences which were diagnostic of the projection of a CP and its properties in English, the subjects' first language, had a categorical grammaticality status at the initial state. At intermediate stages, sentences which were diagnostic of the properties of a CP projection in both the first and the second language were not distinguished, which we took as evidence of the onset of optionality. At ultimate attainment two developmental scenarios emerged. Sentences which were diagnostic of the projection of the CP and its properties in the second language were accepted to the same degree as native speakers only in instances where the second language input data had not been misanalysed at the initial state. Where the input data had been misanalysed, the knowledge representation at ultimate attainment was divergent, suggesting that the determining factor on the type of competence ultimately achieved is the hypothesis formulated at the initial state. The results of this inquiry suggest that initial state grammars have functional projections transferred from the first language. Development is from absolute first language influence to optionality and the resolution of optionality is predicted only where the second language input data has not been misanalysed.

Chapter 1

Introduction

1.0 Aims of the Study

Current second language acquisition research focuses on the nature of initial and early representations in the second language (L2) interlanguage grammar. In particular, the question is whether functional categories are present or absent at the onset of acquisition (e.g. Eubank 1993/4, 1994; Eubank & Grace 1996; Epstein et al 1998; Grondin & White 1995, Lakshmanan 1993/4, Lakshmanan & Selinker 1994, Schwartz 1998; Schwartz & Sprouse 1994, 1996; Vainikka & Young-Scholten 1994, 1996a, b; White 1996c.). This parallels the debate on the emergence of functional categories in L1 acquisition (e.g. Aldridge 1989; Guilfoyle 1986; Guilfoyle & Noonan 1988; Radford 1990a, b, 1995). In L2 acquisition the situation is complicated by the fact that the L2 learner already has a fully formed grammar, in the form of the native language, with a complete functional structure in place. The question is: if functional categories are indeed present at the L2 initial mental representation, what is their source? Are they represented at the L2 initial state because L2 learners have accessed them directly from UG (Epstein et al 1998) or is their presence due to the fact that L2 learners initially use their L1 grammar as an initial hypothesis to account for L2 input data (Schwartz 1998; Schwartz & Sprouse 1994, 1996)?

Most recently, considerable research has been directed toward characterising the initial state grammar in order to determine the extent to which L2 initial knowledge representation associated with functional categories is influenced by the native language. Different views have been proposed to account for the status of functional categories and the nature of initial state L2 grammars. Three positions emerge from these accounts. First, functional categories are assumed to be missing from initial state systems. This is proposed in the Minimal Trees Hypothesis (Vainikka & Young-Scholten 1994, 1996a, 1996b). In the Minimal Tress Hypothesis (MTH), the initial absence of surface morphology is taken as evidence for the absence of functional categories. The acquisition of functional categories is accounted for in terms of a mechanism of a gradual successive application of

structure-building which involves implicational stages. Functional categories are acquired step by step with lower level functional projections such as the underspecified Functional Projection (FP) and the Inflectional Phrase (IP) appearing before higher functional projections like the Complementizer Phrase (CP). The acquisition of functional categories is input-driven and depends on lexical learning.

Secondly, functional categories are assumed to be present from the onset of L2 acquisition (e.g. Full Access hypothesis (Epstein et al 1996; White 1996c)) and the Full Transfer and Full Access hypothesis (Schwartz & Sprouse 1994, 1996). In contrast to the MTH, in the Full Transfer and Full Access (FT/FA) model the L1 final state constitutes the L2 initial state as it is not cognitively plausible that a new cognitive state, i.e. the interlanguage (IL), can be constructed on the basis of subparts of another (the L1) cognitive state. Thus the whole functional geometry of the native language is present at the initial state.

Lastly, a weak parametric transfer view is proposed in the Valueless Features hypothesis (Eubank 1994, 1996). Functional categories are assumed to be partially available at the initial state. It is claimed in the Valueless Features Hypothesis (VFH) that while L1 functional categories are represented at the initial state, their strength values of the features located under functional heads are initially “inert” or underspecified. The VFH argues against the transfer of morphology-driven parameter values at the initial state. It is proposed that syntactic optionality is a result of inert values. The specification of these values is contingent upon the acquisition of the overt inflectional paradigms which then leads to the acquisition of abstract morphological features of functional heads. Optionality is resolved once these features have been acquired. By and large, in both the VFH and the MTH early morphological deficiency in developing interlanguage grammars is taken as evidence for the absence of functional categories and associated features (Lardiere 1998). In both approaches overt morphology isomorphically reflects syntactic structure.

Recently there has been a number of studies focusing on the nature of L2 initial state systems (Gavruseva & Lardiere 1996; Haznedar 1997; Haznedar & Schwartz 1997;

Lardiere 1997; Prévost 1997; van de Craats et al 1997; White 1996c). These studies have relied on production data in order to make statements about the nature of initial mental representations L2 learners have. Although production data may be suggestive of the nature of underlying competence, it has also been argued that such data are not reliable in revealing the structure of underlying competence because production data underestimates while comprehension data also overestimates (Arthur 1980, Juffs 1996b, Cook 1993). The use of production data therefore does not resolve the question of the extent to which L1 functional structure is represented in initial state L2 systems. One question that remains unanswered is: would the same learners accept or reject significantly, the very same structures that they do not produce?

Related to the debate on initial state systems is the question of subsequent development and the knowledge representation attained at ultimate attainment. Researchers who argue for absolute L1 influence (Schwartz 1998; Schwartz & Sprouse 1994, 1996; Montrul 1996) suggest that developmental changes in functional categories and their correlate syntax is predicted only if the L1 and L2 differ (White 1996c). Thus while the L2 learner starts with L1 functional categories, change to L2-like functional categories is triggered by L2 input that cannot be processed on the basis of the initial L1-like grammar. Although all L2 developmental stages are UG-constrained, there is a possibility that there are qualitatively different from both the L1 and the L2 knowledge representations at ultimate attainment. In fact, non-native speakers have shown three types of knowledge representation at ultimate attainment: (1) a complete/convergent (Birdsong 1992; Ioup et al 1994; White & Genese 1996) (i.e. a knowledge representation that approximates that of native speakers of the TL), (2) a divergent (consistently different from both the TL and the L1) (Sorace 1993) and (3) an incomplete competence (i.e. it lacks certain properties of the TL). What factors lead to the development of the knowledge representation observed at ultimate attainment? In view of the above observations, this study investigates the nature of L2 initial state and subsequent interlanguage development. The study seeks to answer the following questions:

- What is the nature of L2 initial state?
- To what extent are L1 specified functional categories represented in initial grammars in L2 acquisition?
- How do L2 learners proceed from this initial state of knowledge to other states?
- Are L2 initial state grammars characterised by syntactic optionality? If so, is this optionality resolved at ultimate attainment?
- What is the final state in L2 acquisition?

The aim of this study is to investigate whether initial L2 systems have (a) missing functional categories or (b) unspecified strength values of features under functional heads. The study is largely an exploration of the nature of initial state systems and the development of functional categories and their correlate syntax up to near-native level. The study investigates the acquisition of complementation and topicalization both of which are assumed to bear on the projection of a CP. The study aims at giving insight into the nature of initial IL systems and also hopes to establish how adult L2 learners come to acquire L2 functional projections during the course of development and the type of knowledge representation achieved at ultimate attainment. It also hopes to establish factors that lead to the resultant type of competence at ultimate attainment.

These issues are investigated using subjects whose native language is English learning Zulu, an African Language spoken in South Africa and its neighbouring states, as a second language. As stated, the specific functional category whose acquisition is central to the investigation is the CP projection. As will be established in chapter five, in both languages a Split-CP is assumed. In English CP is projected with a TopP (Topic Phrase) embedded under it. In contrast, although Zulu does evidence some other forms of C-structures, it does not instantiate a TopP. Regarding complementation, English allows both *overt that* a

(CP-type C) and *null that* (Top-type C). In contrast, Zulu permits an obligatory CP-type C and does not c-select *null that*. English, therefore forms a superset of Zulu complement clauses. If functional categories are initially unavailable or missing, then complementation should not be observed in early declarative subordination. This would manifest itself in non-systematic variability in the acceptability of complement sentences.

On the other hand, the functional category TopP is instantiated in English with parametrically variant strength values of the functional head Top. In English Top has strong <+Topic> features hence there is movement of the phrase to Spec-TopP in the derivation of topics. In contrast, in Zulu the topic is mainly base-generated in Spec-CP position. As will be discussed, in Minimalist terms this indicates that the abstract morphological features under the functional head C are weak. XP movement is subject to the subjacency constraint (Chomsky 1977). From a parametric point of view, because English instantiates subjacency as a constraint to this movement-type while Zulu does not, if the strength of features under functional heads are initially inert or valueless, then syntactic optionality would be observed in early Zulu L2 topicalization. But if feature strength transfers from English, then a categorical representation will be assigned to the sentence which is perceived not to violate subjacency in early Zulu L2 topicalization.

A cross-sectional study of intuition data elicited from English learners of Zulu ranging from the most elementary learners (the beginners, most of whom had been exposed to Zulu in a classroom situation for a period of three months) to near-native level was conducted with the view that such data may yield insight into the nature of the L2 initial mental representation, the subsequent changes that take place, including the nature of the underlying grammar at ultimate attainment.

Investigating the development of functional structure from learners from the same language background has theoretical advantages. Theoretically, since the learners have the same L1 grammar, the development of L2 functional structure takes place from the same “linguistic shell”, or a fairly homogenous “linguistic shell”. In this regard, whatever

observations or conclusions are finally drawn about the transfer of L1 functional structure and the nature of the developing IL grammar, these are stronger.

This study is original in that it investigates the acquisition of a language whose syntactic acquisition has never been studied before. As far as I know, there has never been any principled experimental research that has ever been carried out that makes recourse to linguistic theory on the acquisition of Zulu syntax by native speakers of English. Although there have been studies that have been carried out on the teaching and learning of Zulu (Muller 1982; de Wit 1994), or its sister language Xhosa, no study has so far focused on a rigorous contrastive linguistic analysis of Zulu and English. The norm in South African Applied Linguistic research has been to study the acquisition of English by native speakers of Zulu. Researchers in South African Applied Linguistics have “institutionalised” the image of a problem-driven, pedagogical oriented research. Most studies that have dealt with the acquisition of Zulu as a second language have been highly pedagogical and descriptive in orientation (de Wit 1994; Gxilishe 1988, 1992, 1994). Hence South African Applied linguistic research has ignored contemporary issues. By investigating contemporary theoretical issues, the study introduces a new dimension to South African Applied linguistics whose sole interest has so far been pedagogical.

In view of the above observations, this study is of both theoretical and political importance. From a theoretical point of view, the study brings a previously unstudied language to generative SLA research by investigating the acquisition of some aspects of the syntax of Zulu, an African language. In consequence, this study contributes to a totally neglected area of research: that is, the acquisition of African Languages as L2s.

The political importance of this study arises from the fact that Zulu was previously disregarded as a result of the then-prevailing political situation in South Africa. The recognition of Zulu and other African languages as official languages under the new political dispensation motivates a study of this nature. The requirement under the new South African constitution that previously privileged language groups, i.e. speakers of

Afrikaans and English, need to acquire knowledge of these languages for employment purposes motivates the need for an investigation of Zulu L2. The introduction of the Zulu language as a subject of study in historically white institutions of higher learning also motivates a study into the acquisition of Zulu syntax. Given this new political importance of Zulu, an inquiry into the acquisition of Zulu L2 is essential and politically welcome.

In sum: this thesis is an exploratory study into the development of functional structure from the initial L2 state to ultimate attainment. The study, therefore, hopes to give insight into the nature of the initial mental representation of the L2 grammar regarding the extent to which functional structure forms part of the initial L2 system and how it is represented at ultimate attainment.

1.1 The L2 Initial State

What is an L2 initial state? How do we determine an L2 initial state and how can we capture this stage empirically? Hypothetically, an L2 initial state should be that very stage when the L2 learner first encounters L2 input data. However, this stage is highly elusive and almost impossible to capture empirically. If the L2 initial state is understood as the very first stage, i.e. *ab initio*, then two problems arise:

- (i) Learners at this stage do not have enough vocabulary to express their ideas. Learners are only useful in research when they can produce something or some form of language. The problem is that once learners have learnt enough vocabulary to express themselves, then they are no longer at the *ab initio* state — such learners are well past the stage of initial exposure to the target language. The type of grammar that they exhibit is an *early* and not an *initial* state grammar.
- (ii) Practically speaking, conducting a study using learners on their very first encounter with the L2 would not be easy.

The above observations suggest that any attempt to capture the initial state or *ab initio* is, in itself, *reductio ad absurdum*. Empirically, what is referred to as an initial state is in fact an early grammar. In consequence, the nature of the initial state grammar or *ab initio* is inferred on the basis of evidence obtained at subsequent stages. By extrapolating backwards, it is assumed that although such learners are no longer at *ab initio*, if it can be shown that the development of ILGs of L2 acquirers with different L1s learning the same L2 differs systematically, then this difference can be attributed to the effects of the L1 for one assumes the input is constant. However, the danger of backward extrapolation is that if the later grammar does not show evidence to support the researchers' claim the researcher can always argue that evidence from an earlier stage not captured in the data could have been more favourable (cf. Schwartz & Sprouse 1996, White 1996c).

In this study the initial state grammar is also captured by extrapolation. The initial state grammar is therefore represented in the beginner group which was formed on the basis of the scores obtained in a cloze test (see chapter six). The subjects had all been in a Zulu language course for a period of three months although they might have been exposed to Zulu in some informal situations.

1.2 The Functional Parametrisation Hypothesis

The notion of principles and parameters was introduced in the days of Government and Binding (GB) theory (Chomsky 1981). The term 'Principles and Parameters theory' has been used because it reflects the central claim of GB theory, i.e. that knowledge of language consists of principles which are universal and parameters which vary from one language to another. In GB theory cross-linguistic differences reduce to variation in the properties of parameters. In earlier Chomskyan models universal principles themselves were parameterized (Chomsky 1981). For example, the subadjacency principle states that an XP such as a wh-phrase may not be moved over more than one bounding node. Although the principle itself holds universally, what counts as a bounding node in the grammar of a specific language is subject to parameterization (Meisel 1995). For instance, in English NP and IP are bounding nodes, whereas in Italian the bounding node is CP and not IP (Rizzi

1982). Thus subadjacency applies in both languages with variation arising in what counts as a bounding node in each language.

A radical alteration to the notion of a parameter has been expressed in Ouhalla (1988, 1991a, 1994) and Campbell (1991) wherein parameterization has been restricted to a limited domain of UG. Parameterization is restricted to a closed class of functional heads such as COMP(lementizer), DET(eterminer) and INFL(ection) while lexical categories such as V(erbs) and N(ouns) are invariant across languages. This has become known as the Functional Parameterisation Hypothesis (FPH). Central to the FPH is the claim that functional categories are the sole locus of parameterization; hence languages differ in terms of the properties they select for their functional categories.

In the FPH word order differences reflect differences in morphology. The hierarchical order of functional elements within phrases differs cross-linguistically. For instance, following the idea of Baker (1988), if the subject agreement morpheme is not as close to the verb stem as the tense morpheme, this is attributed to AgrS dominating the T(ense) projection. However, in the Minimalist Program (MP) (Chomsky 1993, 1995) the notion of a parameter is highly restricted although it is still associated with properties of functional categories. The notion of a parameter is described in terms of feature strength. The strong/weak distinction seems to be the only parametric variation among languages. The idea in the MP is that strong features have to be checked off before spell-out. Unchecked features are visible but uninterpretable at PF causing the derivation to crash. Weak features do not need to be checked off in overt syntax. Covert movement is more economical than overt movement (Epstein, Thráinsson & Zwart 1996).

The feature inventory falls roughly into two groups: [+] and [-] interpretable] features. The [+interpretable] features appear at the LF interface to guarantee interpretability, while the [-interpretable] features must be eliminated before LF. The [+interpretable] include categorial features and phi features while [-interpretable] include features of case and checking and the [F] features of functional categories that can vary in strength (Chomsky

1995:277). The interpretable features may be manifested in the overt morphology of the phonetically audible forms. Although there could be a correlation between overt morphology and strength of uninterpretable [F], strength of [F] is not always a reflection of the strong agreement of overt morphology. For example, while both English and French have a strong D feature in Tense which forces raising of the subject DP, subject DPs do not show any overt morphological marking for nominative case in these languages.

The [-interpretable] features must be checked off before LF or the derivation will crash. It is strong [F] that forces overt movement of a matching categorial feature to check off the strong feature. For example, consider the word order differences between English and French in regard to adverb placement. Because the V feature in English is weak, there is no overt raising of the lexical verb. Hence the word order Subject-Adverb-Verb-Object (SAVO) is the only order permitted. In contrast, the French V feature in Tense is strong; hence the lexical verb is raised to check off the V feature. This results in the word order Subject-Verb-Adverb-Object (SVAO) as shown in (1).

- 1a. John *often* watches television. (SAVO)
- 1b. * Jean *souvent* regarde la télévision.
- 1c. * John watches *often* television. (SVAO)
- 1d. Jean regarde *souvent* la télévision.

Variation in strength of [F] leads to cross-linguistic differences in word order. In the MP word order variation is accounted for in terms of the interaction of overt and covert movement. This minimalist conception of a parameter is supported in Kayne (1994) who proposes that all languages are invariably head initial. Thus directionality of word order no longer applies. Kayne further proposes that movement of a lexical head to a functional head is invariably leftward. For example, there is no wh-movement that moves a wh-phrase to the right. Spec-CP is on the left and movement of the wh-phrase is to the left. Similarly, because verb movement is to the left, it does not change the complement order from VO to OV. The VO/OV distinction is brought about by the interaction of overt and

covert movement. In the **VO** order, the language is head-initial and no overt movement takes place. In contrast, the **OV** word order results from movement of the object.

In the PP model movement is constrained by principles such as subjacency which constrains XP movement. Movement creates a dependency relation between an antecedent and a trace. An antecedent and its trace need to be in the same local domain. In cases of long distance movement, intermediate positions may serve as landing sites as the XP moves successive cyclically to a position outside its local domain. Thus the intermediate traces serve to link an antecedent and a trace which is not in the same local domain. In the MP these ideas are still retained. Long distance movement is constrained by an operation called Form Chain. For example, in (2) a chain is formed:

2. Who_j did you say [_{CP} e_j that John had kicked t_j]

The intermediate element e_j serves as a link between the antecedent and its trace forming the chain [who_j; e_j; t_j]. However, for ease of exposition we will use the more familiar language of the earlier PP model. Instead of using Form Chain as a constraint to XP movement we will refer to subjacency. This is also to avoid getting embroiled in some of the controversies regarding some of the operations proposed in the MP (Zwart 1996). In addition, parametric variation would not be strictly confined to a Minimalist approach wherein it is expressed in terms of the features of functional heads only (Epstein, Thráinsson & Zwart 1996). Parametric variation will be used with reference to properties of functional categories. This will include c-selection, m-selection and grammatical properties. Since feature strength is a property of functional categories, it is also included under grammatical properties of functional categories.

1.3 A Split-CP Projection

There is cross-linguistic evidence that C⁰ elements are morphologically complex and ambiguous (Rizzi 1990; McCloskey 1990; McDaniel 1995). Rizzi (1990) suggests that the difference in the morphological properties of the functional head C⁰ is a consequence of

UG providing a formal resource for differentiating between comp-types in the world's languages. A recent approach in linguistic theory which captures this generalisation is a Split-CP hypothesis which shows that different C-elements occupy separate positions within the CP-layer (Shlonsky 1992; Müller & Sternefeld 1993; Rizzi 1995; Nakajima 1996). C-structures such as focus, topic and agreement occupy different positions within a layered CP.

Rizzi (1995) identifies a separate landing site for different C-structures. Wh-words are focused elements and their landing site is FocusP. Non-quantifiers also occupy a separate C-position. Topicalized elements are in TopP. Elements that are generally part of the I-system have also been found in the C-layer. This has motivated the iteration of the traditional CP node into a head that generates IP-level elements within CP and a head that generates the traditional CP-level elements like wh-questions and complement clauses. For example, Cottel (1995) identifies two positions for the overt tense marker in Modern Irish. One is in the IP and the other is in the C-layer. Campbell (1995) also argues for a tense marker within the C-system in Akan. In Müller & Penner (1996) there is an Infl feature which occupies a C-head within the C-system in Bernese Swiss German. This C-head generates expletive complementizers. Nakajima (1996) proposes a Split-CP analysis that separates the declarative complementizers *overt* and *null that*. *Null that* occupies the functional head Top(ic) and projects into TopP while *overt that* is in C the head of CP.

A Split-CP hypothesis has been used in language acquisition to explain discrepancies in the acquisition of different structures associated with the C-system (Hollenbrandse & Roeper 1996, Hollenbrandse 1997). In L2 acquisition a Split-CP analysis may be necessary in order to establish the exact nature of the elements that transfer from the L1 into the L2. In consequence, a Split-CP analysis has been assumed because it is hoped that it might reveal the finer details of the aspects of the L1 grammar that filter into the L2 initial state. The Split-CP analysis that will be used is that proposed by Nakajima (1996) (see chapter two) as it has a direct bearing on the structures whose acquisition form the basis of this inquiry.

1.4 Preview

This thesis is organised as follows: chapter one is an introduction to the aims of the study, the research questions and an expose of the basic concepts related to the investigation. In chapter two the relationship between linguistic theory and language acquisition is explored. The chapter discusses issues on the projection of functional categories from the viewpoint of linguistic theory and from language acquisition. The main thrust of this discussion is the role of null functional categories, i.e. whether their projection is licensed. In particular, the discussion examines the status of phonologically null functional categories. It is argued that phonological “nullness” is an inherent property of functional categories: hence phonologically null functional categories are projected in a grammar of any natural language. A related issue is raised in the acquisition debate. Drawing from theoretical arguments in philosophical and natural science, it is argued that the *absence* of overt morphology at morpho-syntax is not conclusive evidence that functional categories are missing in a developing grammar. It is suggested that the only conclusive evidence for the absence of functional categories in a developing grammar would be the absence of syntactic correlates of the particular functional categories. Thus the absence of sentential complementation in a developing grammar provides more conclusive evidence of the absence of a C-system.

Chapter three addresses issues related to the development of L2 grammatical competence. The focus is on the nature of evidence available to adult L2 learners, its usability and the role of the native language in the process of L2 grammar-building. Central to the discussion is the status of functional categories at the L2 initial state and how these evolve at subsequent developmental stages. Three views on the L2 initial state debate are reviewed. These are the Minimal Trees Hypothesis (MTH), the Valueless Features Hypothesis (VFH) and the Full Transfer and Full Access (FT/FA). In evaluating the strengths and weaknesses of each hypothesis, it is argued that while the MTH is based on some of the fundamental theoretical assumptions drawn from linguistic theory, there are methodological flaws which render its predictions on the nature of the initial state grammar suspect. It is also argued that while the VFH captures the kind of optionality

shown by early learners, the nontransferability of feature strength is not properly motivated.

Chapter four acts as a bridge between the theoretical background and the experimental study. It is a description of the language context of the study. This chapter highlights the importance of Zulu second language as an area of inquiry. Chapter five is a contrastive survey of tensed C and topicalization in English and Zulu. The chapter examines the areas of contrast in the two languages which could, from a parametric point of view, have implications for the acquisition of Zulu as a second language by native speakers of English. Specifically, the chapter identifies the acquisition problem of an English-speaking L2 learner of Zulu complementation and topicalization. The areas that are examined are the flexibility of Zulu word order. The emphasis is that since Zulu allows many other word orders other than the Subject-Verb-Object (SVO) permitted in English, it yields a superset grammar. From a learnability point of view, it is suggested that the similarities in canonical word order is a potential source of misanalysis of Zulu positive evidence. It is also established that by including both *null* and *overt that*, English complementation is a superset of Zulu. Zulu grammar only permits an obligatory lexical complementizer for subordination. The acquisition problem English native speakers face in their acquisition of Zulu complementation is that Zulu positive evidence is obscure. With respect to topicalization it is stated that although this is not expected to pose any problems for native speakers of English, the subject-prominence nature of English might lead to a misanalysis of Zulu positive evidence such that initial NPs in topic structures might be assigned a wrong structural analysis in the early stages of acquisition. These might initially be analysed as subject NPs in a simple IP.

Chapter six is a detailed description of the experimental study, the research design, the research methods used and their validity and reliability in measuring linguistic intuitions. Chapter seven is a report of the results on the judgements on tensed C and topicalization. The results of the experimental study are discussed in chapter eight while the conclusions that are drawn on the basis of the findings of the study are in chapter nine.

Chapter 2.

Linguistic Theory and Language Acquisition

2.0 Introduction

In this chapter the relationship between linguistic theory and language acquisition is explored. A theory of language acquisition depends on a theory of language because in order to decide how something is acquired, it is essential to have an idea what that something is (Gregg 1989, Schwartz 1986; White 1996b). The linguistic theory that will be examined is the Principles and Parameters (PP) model. The PP model postulates a system of innate principles and parameters which form the content of Universal Grammar (UG). It handles issues related to language acquisition because it is grounded in concerns about the logical problem of language acquisition (Chomsky 1981; Hornstein & Lightfoot 1981).

This chapter is an exposé of the theoretical linguistic arguments on the acquisition and development of grammatical competence. It examines some of the controversies in theoretical linguistics which have a direct influence in language acquisition, both in L1 and L2. One such controversy relates to the role of null functional heads, i.e. whether these project into a maximal projection. From a theoretical point of view, it is argued that functional categories can be phonologically null although projected in the grammar. The acquisition perspective examines whether the absence of functional categories (at the level of phonological realisation) can be taken as evidence of lack of functional categories. It is then argued that their absence at surface morphophonology is not an indication of a representational deficit. The chapter also examines the variable output of both L1 and L2 learners. The question dealt with is whether variable output is an artefact of grammar or performance factors. A distinction is then drawn between E-variability (variation at the level of performance) and I-variability or optionality (variation at the level of competence).

2.1 A Theory of Grammar: PP Model

Cho & O'Grady (1997) define grammar as "the mental system that allows people to speak and understand a language" (1997:464). In generative linguistics the term refers to knowledge of language which is subconscious. Knowledge of language is essentially a computational system which, together with the lexicon, makes it possible to generate an infinite number of sentences (Ouhalla 1994; Haegeman 1994). The central concern of generative linguistic theory is to develop a model of grammar that is "compatible with the diversity of existing grammars" which "develop in the mind on the basis of quite limited evidence" (Chomsky 1981:3).

A grammar is, therefore, an end-result or end-product of language acquisition (Cho & O'Grady op.cit.). Thus a theory of grammar must also account for how language is acquired. The PP model accounts for both the structure of natural language and the acquisition of linguistic knowledge. In fact, the PP model has a dual aim: (1) it characterises the native speaker's grammar or competence and (2) although not a theory of language acquisition, it explains how language acquisition is possible. In the PP model linguistic competence emanates from innate knowledge in the form of UG. UG is motivated as an innate language mechanism on the basis that children have knowledge of language structures for which there is no input. Children produce very complex structures they have never heard before and they avoid certain errors. It is therefore assumed that the L1 acquisition process is constrained by UG. We shall examine some of the properties of UG next.

2.1.1 Principles

Principles are common to all languages because they are genetically determined. They are universal properties of language which collectively form UG or part of the innate knowledge that children bring to the language learning task. They are a universal set of innately endowed grammatical principles which determine the nature of grammatical structure in human languages. Although principles of UG are universal and common to all languages, every principle is not overtly manifested in every language. Languages choose

which principles to incorporate in their systems. If language X does not observe principle Y, this does not mean that language X is not constrained by UG (Martohardjono & Gair 1993). There are differences in terms of “possible universals.”

The availability of universal principles in natural language grammars reflects that despite the superficial differences between languages, languages are similar. This generalisation has been captured by proposals for a single computational system for human languages. However, UG also provides for cross-linguistic variation and thus allows individual languages to differ with respect to certain properties known as parameters.

2.1.2 Parameters

Parameters are “options restricted to functional categories” (Freidin 1997:574) and some “general lexical properties” (Chomsky 1995:170). Parameters present a limited range of options into UG. Parametric variation is viewed in terms of differences in the properties of FCs (Ouhalla 1991a, Epstein et al. 1996). The input “triggers” or causes parameters to be set without learning having to take place (White 1996b, Meisel 1995). In the following sections this notion of parametric variation is considered. First, we establish the role of FCs in the organisation of grammar.

2.1.2.1 FCs in a Grammar

The organisation of grammar centres around FCs such as Det, INFL, COMP and their projections (Abney 1987; Fukui & Speas 1985; Radford 1986, 1990a, 1990b; Ouhalla 1988, 1991a, 1994). Because FCs are the prime locus of parametric variation Ouhalla (1991a) states that they “are the flesh and blood of grammar” (p1).

Current research draws a distinction between lexical and functional categories (Hoekstra & Jordens 1994). This distinction is a long standing one in the history of linguistic theorising¹. It closely resembles the distinction between content/function or open/closed

¹ Hudson (1997) argues against this distinction by suggesting that FCs do not exist, they are a linguist’s invention.

grammatical categories in language acquisition studies (Brown & Fraser 1963), language processing (Garret 1990; Kimball 1973), agrammatism (Kean 1985) and linguistics (Fries 1952). What are functional categories and how do these differ from other linguistic categories? What is their role in grammar and what is their contribution in linguistic theory and language acquisition? These are some of the questions that we examine in the rest of this chapter.

2.1.2.2 FCs vs. Substantives

Linguistic categories fall into two broad categories: the open and closed class. The open class constitutes substantives or lexical categories, i.e. V, N and A. The closed class consists of FCs such as determiners, inflection, complementizers and auxiliaries. FCs embody the grammatical and not the thematic relations of sentences (Radford 1995). Unlike substantives, FCs lack "... descriptive content. Their semantic contribution is second order, regulating or contributing to the interpretation of their complement. They mark grammatical or relational features rather than pick out a class of objects" (Radford 1990a:53).

In addition, Abney (1987) sets out four identifiable properties which distinguish FCs from substantives. FCs differ from substantives in that they are:

1. Non-descriptive: unlike lexical categories, they do not contribute much in terms of basic semantic information.
2. A closed class: while new vocabulary (i.e. new lexical items) are added into the language no new tenses, complementizers or auxiliaries are added into the language. FCs are limited in number.
3. Morphologically and phonologically dependent: there are often unstressed elements and operate as clitics or affixes. They may be phonologically null (cf. de Villiers et al. 1994).

4. Allow a single complement: the complement does not contribute essential semantic information. They do not assign theta roles to their complements.
- Substantives permit multiple complements.

In current syntactic theory substantives are considered to be universal² and cross-linguistic variation reduces to differences in the properties of FCs. However, although FCs are the “locus of parametric variation” there is disagreement as to which of their properties contribute to parametric differences. Pollock (1989) identifies the transparency of Agr as contributing to parametric differences, while Borer (1984) associates parametric variation with the availability of inflectional rules. Ouhalla (1991a) identifies *lexical properties of FCs* (see 2.1.2.3) as contributing to parametric variation in languages. Ouhalla’s Functional Parameterisation Hypothesis (FPH) resembles the Lexical Parameterisation Hypothesis (LPH) proposed in Wexler & Manzini (1987) and Truscott & Wexler (1989). In the LPH parameters do not belong to principles of UG. They belong to individual lexical items. Wexler & Manzini (1987) state that “parameterisation is essentially lexical” (1987:47) and parametric values “must be associated with single lexical items”³. In the LPH, Borer (1983, 1984) suggests that parametric choice is not associated with the computational component but it is restricted to the lexicon. Chomsky (1989) also states that parametric choice is not defined over the entire grammar. He indicates that parameters of UG relate to the lexicon and thus restricts parametric variation to properties of lexical items. It is possible, as Cook & Newson (1995) state, that there may be two types of lexicon wherein one deals with the lexical entries of substantives and their s-selection properties (Chomsky 1986) while the other lexicon handles FCs. Cook & Newson (op.cit.) conclude that cross-linguistic variation would still reduce to variation in the lexicon.

² O’Grady (1997) states that there is variation in lexical categories across languages. O’Grady points out that the only substantives that are universal are nouns and verbs. Adjectives, although common, are not universal. Languages like Korean, Bemba, Hausa, Hua and Telegu lack adjectives.

³ The LPH raises learnability problems because it does not separate lexical categories which are morphological in character, i.e. FCs, and those that are not (substantives). If lexical categories lead to parametric differences, this would lead to a proliferation of parameters because lexical items consist of an open class.

However, Chomsky (1995) suggests that “virtually all items of the lexicon belong to the substantive categories” (Chomsky 1995:6). The properties of the lexicon are constrained by UG hence substantives are drawn from an invariant universal vocabulary. In this account parameters still relate to the lexicon but parameters refer specifically to properties of a closed class of specific elements of the lexicon, i.e. FCs. Hence cross-linguistic variation is morphological in character.

Iatrodou (1990) suggests that parametric variation is due to the differences in the FCs instantiated by different languages. As head of S, the only FC that is obligatory for all languages is INFL. But within INFL, languages can choose from the available functional heads such as Agrs, Tns, Agro, causative, benefactive, etc. leading to cross-linguistic differences. It is the differences in the choices that languages make which lead to parametric variation. We shall examine some of the parametrically variant properties of FCs in order to establish how each contributes towards cross-linguistic variation.

2.1.2.3 Parametrically Variant Properties of FCs

Ouhalla (1990, 1991a) defines parametric variation not only in terms of the set of FCs implemented in the grammar but also in terms of lexical properties. In Ouhalla’s account FCs are part of a modularised lexicon which consists of a grammatical component determined by UG and a mental lexicon which consists of substantives and is not directly associated with UG (Tsimplici & Ouhalla 1990). Although Ouhalla restricts parametric variation to properties of FCs, he offers an *explicit definition* of properties of FCs that lead to parametric variation. Ouhalla identifies three properties of FCs along which languages differ. These are:

- (i) C-selection properties
- (ii) M-selection properties
- (iii) Grammatical features/properties

In the next section we shall examine how each property contributes towards cross-linguistic variation.

2.1.2.3.1 C-selection Properties

FCs differ from substantives in that their selection restrictions do not operate in terms of semantic properties because they do not assign theta roles. The nature and number of arguments which substantives take as complements is determined by the number of thematic roles in their theta grid. Thus substantives have semantic-selection (s-selection) properties (Chomsky 1986) while FCs lack such properties. However, although FCs lack thematic grids, they have categorial-selection (c-selection) properties. The lexical entry of any given FC specifies the syntactic category of its complement. For example, given that T(ense) in English is marked on the verb, T c-selects a verbal complement. The difference between FCs and substantives reduces to a difference in c-selection properties. FCs c-select a very restricted range of complements (Cook & Newson 1995:186) whereas substantives have a wide range of possible complement-types.

The c-selection properties of FCs play a crucial role in determining the derived word order of constructions. For example, in one language T(ense) may c-select Agr_oP while in another language T may c-select Agr_sP as a complement. The resultant word order differences in the two languages would be due to the c-selection properties of the functional category T. This gives rise to “a cluster of properties of surface phenomena which characterise languages along typological lines” (Ouhalla 1991a:17). Hence differences in the c-selection properties of FCs contributes towards cross-linguistic word order differences.

2.1.2.3.2 M-selection properties

Morphologically bound categories have morphological selection (m-selection) properties wherein the lexical entry of affixal elements specifies the categorial nature of the item they can attach or adjoin to (Baker 1988a). Because FCs may be morphologically and phonologically dependent, they have m-selection properties which determine the category they can adjoin to (cf. Haverkort 1991). However, not all FCs are affixes. For example, auxiliary elements do not assign thematic roles (Pollock 1989; Ouhalla 1990) which shows

that they are FCs. Yet they do not appear in sentences as bound morphemes adjoined to other categories as shown in (3).

3. The boy's in the house.

In (3) the subject is assigned a thematic role by the prepositional phrase “in the house” through predication (Williams 1980). The copula *be* is inserted to carry tense and agreement affixes. The above example shows that not all FCs are morphologically bound. Hence Ouhalla (op.cit.) extends the m-selection properties to include both *bound* and *free* elements. M-selection properties in the lexical entry of the category indicate whether the category is affixal or not and the type of category it can adjoin to. The presence of an affixal category in a given language leads to the use of different principles. Unattached affixes are subject to the stray affix filter⁴ while free morphemes are not. The presence of an affixal element in a language will result in the application of movement processes which will not be applicable in a language that has the same category in its non-affixal form. The resulting derivations in the two languages will be superficially different in terms of word order constituents. Thus parametric variation arises in the order of constituents depending on whether a FC is affixal or not. A typical example is the realisation of negative constructions in English and Berber. In English Neg is not affixal: hence it cannot be adjoined to the verb. In Berber Neg appears attached to the verb because it is affixal. The non-affixal nature of Neg in English blocks head to head movement of the verb as shown in (4a).

4a. *Mary bought not the car.

4b. Mary did not buy the car.

Parametric variation in word order also arises if the categorial nature of the element the affix adjoins to differs. For instance, if in a given language X the affix is attached to [+N]

⁴ The stray affix filter (Baker 1988a, b) appears under different names in the literature. Ouhalla (1988) calls it the Affix Principle while in Pesesky (1989) it is referred to as Lasnik's Filter. The principle requires that at s-structure affixes must be attached to other categories and not “stranded”.

and in another language Y the same affix is attached to [+V], this results in similar affixes being attached to categorially different elements in the two languages. Thus the bound and free nature of a given FC plays a crucial role in cross-linguistic variation.

2.1.2.3.3 Grammatical Properties

FCs are specified for grammatical features such as “phi features” (Chomsky 1981). The grammatical features associated with FCs are:

- a. person, number and gender which are associated with Agr.
- b. past/future are associated with Tense.
- c. wh-features [+/- wh] associated with C and D.
- d. Top-features [+/- Top] associated with Top(ic).

Parametric variation results in different languages selecting different options among the grammatical features associated with a particular FC. For instance, French and English show a parametric difference in terms of the selection of the grammatical features associated with the FC Agr. While French has all the three grammatical features of Agr, i.e. person, number and gender, English selects person and number.

FCs also differ in terms of the value of the specific grammatical features they have in different languages. The differences in grammatical features associated with FCs can be illustrated in terms of the differences between wh-movement languages such as English and wh-in-situ languages like Chinese (Huang 1982), SeSotho (Demuth 1992a, b; 1995) and Zulu (Suzman 1992). This parametric difference is explained in terms of a difference in the value of features located under the relevant functional head. English makes use of wh-movement whereas Zulu uses an in situ ‘wh-strategy’ in wh-question formation. This results in the derivation of constructions which are different. Differences in grammatical features lead to cross-linguistic variation in the derived order of words.

However, in recent developments it is not so much the presence or absence of features that is parametrized. Instead, *the strength values of these features* lead to cross-linguistic

differences. In the Minimalist Program, movement operations are driven by morphological necessity. Strong features must be checked off in the checking domain of a head otherwise the derivation will crash (Chomsky 1995). Weak features are “not offensive” hence they do not need to be checked off. The raising of the strong <+wh> operator to Spec-CP in wh-question and relative clause formation in English-type languages is driven by the requirement that strong features have to be checked off. In Chinese and Zulu-type languages where these features are weak, movement does not occur overtly. Wh-questions and relative clauses are base-generated in situ. Topicalization and focus follow the same process and movement is also driven by the strong operator features which need to be checked off. Feature strength is a property of FCs. Feature strength is one area of language variation as shown by the parametric difference between overt and covert movement. Strong features trigger overt movement while weak features do not.

To recapitulate; it has been stated that parametric variation reduces to properties of FCs. This account has led to the Functional Parameterisation Hypothesis (FPH). The emphasis in the FPH is that parameters do not belong to principles but to properties of FCs. Ouhalla proposes that languages differ only in terms of the properties they select for their FCs. As indicated, there are different aspects related to FCs which supposedly lead to parametric variation. In this study parametric variation will be viewed in terms of Ouhalla’s lexical properties.

Having selected a particular FC, how is that FC projected in the grammar? We shall examine the projection of FCs next.

2.2. Projecting a FC

It has been indicated (2.1.2.2) that FCs can be phonologically null. If a FC has a phonologically null functional head, can it still project into a maximal projection? Economy principles might suggest that a phonologically null functional head cannot project into a maximal projection (Speas 1993, 1995). Some researchers argue that it can still project (Nakajima 1996, Progovac 1998). Whether a phonologically null functional

head does or does not project is an important issue especially for acquisition research. If language learners, L1 or L2, do not show any evidence (i.e. phonologically) of functional elements could it be that the FC is not projected in their grammar? In the next section we examine the role of *null content* especially in the projection of a CP which forms the basis of this inquiry.

2.2.1 Phonetic Content vs. Null Content

Empty categories have long been a significant area of research in syntactic theory. In current research the questions relate to whether FCs without phonetic content are projected in a grammar. In acquisition research the question is whether the absence of a FC (in the sense that it does not have phonetic content) at surface morphosyntax is evidence that it is missing in the developing grammar. From the viewpoint of theoretical linguistics, one area of interest has been whether complementizer-less clauses (i.e. subordinate clauses that are not introduced by an overt lexical complementizer) can be analysed as CPs headed by a null complementizer (the CP-hypothesis) or whether these are IPs (the IP-hypothesis). As complementation is one of the structures investigated in this study, it is crucial to establish whether *that-less* clauses are IPs or CPs. We evaluate the proposals of each hypothesis in the next section.

2.2.1.1 Complementizer-less Clauses: CP- or IP-Hypothesis?

The status of complementizer-less CPs has been questioned for reasons of economy of derivation (Boskovic 1994, 1996, Doherty 1997; Speas 1995). It is argued that complementizer-less clauses are IPs and not CPs as suggested in the CP-hypothesis. The IP-hypothesis is motivated on the basis that it is in line with current approaches to syntax which eliminate superfluous levels of projection (Weibelhuth 1992; Grimshaw 1994; Chomsky 1995; Radford 1997). The projection of null CPs is then ruled out on the basis of economy considerations (cf. Haider 1988). Economy principles block the derivation of “contentless projections” wherein the head and the specifier lack phonetic content (Speas 1995). Economy principles therefore predict that in the derivation of *that-less* clauses, the CP projection is not licensed as the functional head C is empty. The only projection that is

licensed is an IP. It is then suggested that *that-less* clauses mark finite IP complementation. This is also supported in Grimshaw's Optimality theoretic account where clauses are as big as they are required to be. Thus *that-less* clauses are IPs unless there is evidence that they are CPs.

Complementizer-less clauses like those exemplified in (5b) have an empty specifier and contain a functional head that lacks phonetic content.

5a. Mary thinks [_{CP} [_C that [_{IP} money can buy love]]].

5b. Mary thinks [_{CP} [_C Ø [_{IP} money can buy love]]].

According to the IP-hypothesis, the projection in (5b) is “contentless” and violates the “no contentless-projections constraint” (Radford 1997:149). Hence the *that-less* clause should be analysed as an IP as IP is the only projection that has content. Recent approaches to syntax suggest that for economy reasons *that-less* clauses are IPs. It is only those clauses introduced by an overt lexical complementizer which project further into a CP. If *that-less* clauses are CPs this would lead to superfluous derivations that violate the “no-contentless projections” constraint. But what counts as “content” in economy principles?

Speas (1993) describes “content” as:

“A node X has content if and only if X dominates a distinct phonological matrix or a distinct semantic matrix” (1993:187).

In Figure 1, XP is a “contentless” functional projection.

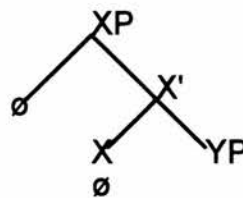


Figure 1: A Contentless functional projection.

Speas (1995) argues that since all structures have to be available for interpretation at both PF and LF interface levels, FCs must have distinct content in order to license the projection of a maximal projection. Distinct content includes either a phonological or semantic matrix. In Figure 1 XP is supposedly contentless as there is no other distinct phonological or semantic matrix other than that contained in its complement YP. XP does not dominate any distinct semantic content except that which is in the complement YP. Its specifier position is also empty. In economy principles XP is a superfluous projection. The projection of a maximal projection only takes place if there is some distinct content which can either be phonological or semantic. Speas states that “economy principles constrain... the projection of structure at one level which will not be filled until some later level” (Speas 1993:187). Hence a projection that lacks content is a representation that receives no interpretation at all. For a maximal projection to be licensed there must be a distinct phonological or semantic matrix in the functional head. A phonologically null functional head cannot license the projection of a maximal projection. With *that-less* clauses, a sentence like (5b) repeated here as (6a) has a configuration shown in Figure 2 and not that in Figure 3.

6a. Mary thinks money can buy love.

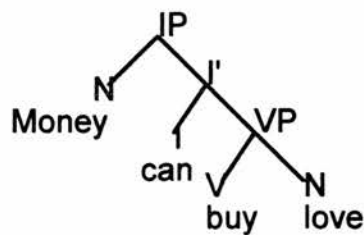


Figure 2: *That-less* clauses as IPs.

If (6a) above is analysed as a CP the economy account predicts that this would be a contentless projection as the CP does not dominate any distinct content other than that contained in its complement as shown in Figure 3.

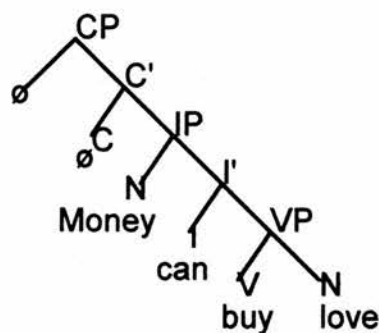


Figure 3: *That-less Clauses as Contentless CPs.*

The definition of a “contentless” projection proposed in Speas (1993, 1995) indicates that for a CP to be licensed there ought to be a distinct phonological or semantic matrix in the functional head C. In Figure 3, the functional head C and the specifier positions are empty. The projection of CP cannot be licensed. In consequence, *that-less* clauses can only be IPs as the licensing of CP is blocked by the “contentless” functional head. And yet (5a) repeated here as (6b) is a CP.

6b. Mary thinks that money can buy love.

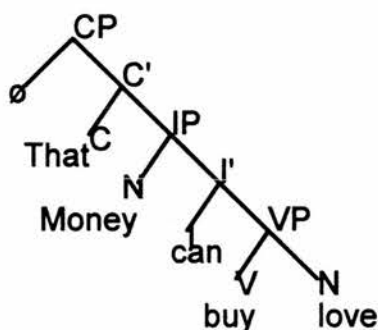


Figure 4: *That-Clauses as CPs.*

In Figure 4 the functional head C has a distinct phonological matrix. The CP dominates distinct phonological content from the functional head C and its complement. The projection of a CP is therefore licensed. Thus *that-clauses* are CPs while *that-less* clauses

are not. The conclusion drawn from this analysis is: “all clauses are IPs but that only clauses which contain an overt complementizer ... project further into a CP” (Radford 1997:151).

Additional empirical evidence in support of the IP-hypothesis comes from structural diagnostics (Radford 1988) such as subject extraction facts. Radford (1997) states that in English, for purposes of emphasis, the subject of a *that-less* clause can be fronted. Yet this is not permitted if the subject of a clause is introduced by a lexical complementizer like *that* as the resultant sentence is a that-trace or an Empty Category Principle (ECP) violation. For example in (7) below, (7b) is that-trace violation.

7a. Mary thinks [_{IP} money can buy love]

Money_j Mary thinks [_{IP} e_j can buy love].

7b. Mary thinks [_{CP} [_C that [_{IP} money can buy love]]].

*Money_j Mary thinks [_{CP} [_C that [_{IP} e_j can buy love]]].

In the economy analysis, the *that-less* clause in (7a) is an IP whereas the *that-clause* in (7b) is a CP. Since subject extraction out of a CP leads to ungrammaticality (Culicover 1991) this explains the ungrammaticality of (7b). Subject extraction out of an IP does not lead to ungrammaticality so (7a) must be an IP rather than a CP. This accounts for the differences in the grammaticality status of the two sentences after the extraction of the subject. Those who argue for the IP-analysis of *that-less* clauses suggest that, if it is wrongly assumed that sentence (7a) is a CP, it would also be erroneously concluded that sentence (7a) is unacceptable in English after the extraction of a subject. On the basis of subject extraction as a structural diagnostic, it is argued that *that-less* clauses are IPs and not CPs headed by a null complementizer. The main thrust of the argument is that it is only clauses containing an overt lexical complementizer like *that/if/for* which project into a CP (Radford 1997; Doherty 1997).

In addition, it is argued that while the CP-hypothesis is motivated on the basis of the ECP, this has been questioned on both empirical and conceptual grounds (Doherty 1997; Nakajima 1996). Conceptually there is no proper explanation why null complementizers are subject to the proper government requirement. At the empirical level, the set of clauses “whose complementizers are properly governed is not co-extensive with the set of clauses which permit that to be absent” (Doherty 1997:206). Doherty therefore concludes that the CP-hypothesis is not motivated.

The basis for the CP-hypothesis is also structural diagnostics. In structural diagnostics, empirical evidence for postulating that linguistic elements belong to the same grammatical category is morphosyntactic (Radford 1988). Syntactic evidence shows that different linguistic categories have a different distribution hence they occupy a different range of positions within phrases or sentences. Linguistic elements that belong to the same grammatical category occupy the same positions within phrases or sentences. The syntactic criterion indicates that linguistic elements that belong to the same grammatical category share the same general syntactic properties. Thus if *null that* is a complementizer like its overt counterpart, then its syntactic properties must be on a par with those of *overt that*. The syntactic criterion suggests that *null that* must have the same distribution as *overt that*. But as seen from example (7), this is not necessarily the case.

Furthermore, the CP-hypothesis claims that finite clauses introduced by an *overt* or *covert* complementizer have a common syntactic distribution and the two complementizer-types share the same syntactic properties. The IP-hypothesis claims that there are significant differences between *that* and *that-less* clauses. It has been argued that both clause-types do not display the same syntactic characteristics with respect to adjunction possibilities in embedded topicalization and sentential adverbs (Doherty 1997). In instances of embedded topicalization, topics can only appear to the right and not to the left of the complementizer as in (8).

8a. I hope that you will read *this thesis*.

8b. I hope that *this thesis* you will read.

8c. ?I hope *this thesis* you will read.

Embedded topicalization involves movement to the specifier of a phrase intermediate between a CP and IP (Authier 1992; Chomsky 1977; Culicover 1991; Müller & Sternefeld 1993)⁵. It could also be adjunction to IP (Rochemont 1989; Lasnik & Saito 1992). Embedded topicalization is derived from the structural representation in (9):

9. a. [_{CP} that [_{XP} Topic [_{IP} -----]]]
b. [_{CP} that [_{IP} Topic [_{IP} -----]]].

The unacceptability of embedded topicalization with *that-less* clauses follows from the principle of Adjunction Prohibition (AP):

“Adjunction to a phrase which is s(emantically)-selected by a lexical head is ungrammatical” (McCloskey 1992:11).

In consequence, adjunction to the left of the complementizer is ungrammatical because the CP is directly s-selected by the matrix verb (Doherty 1997). Because IP, which is a complement of C⁰, is not directly s-selected by a lexical head, adjunction to IP is prohibited. Hence the AP prohibits adjunction to an IP complement because IP is the s-selected complement of the matrix verb. This explains the ungrammaticality of (10).

10. *I think [_{IP} *my thesis* [_{IP} you should read]]

Adverbial adjunction is possible in *that-clauses* because the sentential adverb is adjoined to IP. In (11) adverbial adjunction is not permitted in *that-less* clauses.

- 11a. She prayed *that* during the viva the examiner would be sympathetic.
11b. *She prayed *Ø* during the viva the examiner would be sympathetic.

The structural differences in (11) can be captured in the representation below.

- 12a. V⁰ [_{CP} that [_{IP} Adverb [_{IP} ----]]]

⁵ As will be seen in 2.3 this phrase is TopP in a Split-CP analysis in English.

12b. *V⁰ [_{CP} Ø [_{IP} Adverb [_{IP} ----]]]

The CP-hypothesis would not have predicted the ungrammaticality of the representation in (12b). This structural difference in the distribution of *that* and *null that* reflects a *difference* between the two complementizer-types. The conclusion drawn is that *that-less* clauses are IPs and not CPs.

However, Nakajima (1996) provides evidence which supports a CP-analysis of *that-less* clauses. In Nakajima's account, the differences in the distribution of *null* and *overt that* indicate the need to distinguish the positions of *that* and *null that* in the syntactic tree. The distribution evidence presented in the IP-analysis suggests that although both *null* and *overt that* are complementizers (since both can be complements of some categories), they occupy distinct syntactic positions under functional heads of CP-related functional projections. In consequence, the problem with the IP-hypothesis is that *null* and *overt that* are treated as if they were under the same functional head. The observed differences between *overt* and *null that* therefore indicate that although both FCs implicate a CP projection, *overt that* is generated under the functional head C while *null that* is generated under Top (Nakajima 1993, 1996). CP is split into a CP clause with a TopP embedded under it. As the distinction between CP and Top-type C forms the basis of our investigation, we shall examine the details of a Split-CP analysis in the sections that follow.

2.3 A Split-CP Analysis

Proposals related to the structure of CP in different languages suggest that the CP layer is split into several functional heads (Müller & Sternefeld 1993; Hoekstra 1993a, b; Culicover 1991; Rizzi 1995; Aboh 1997; Hollenbrandse 1997). A Split-CP analysis suggests that different complementizer-types occupy distinct syntactic positions. The need for more than one complementizer-type position leads to the iteration of the CP node into independent heads. The categorical label for the head differs from one account to another,

although the most popular has been Top (Nakajima 1996; Müller & Sternefeld 1993; Hoekstra 1993a, b)⁶. TopP is situated between CP and IP as in Figure 5.

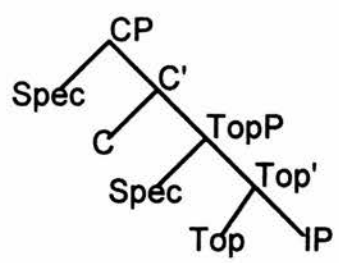


Figure 5: A Split-CP.

In V2 languages the maximal projection TopP hosts a moved verb⁷ while in other languages it is a position occupied by a clause-initial topic phrase which is base-generated or preposed from some other position during topicalization. Nakajima (1996) identifies the content of C as the interrogative complementizer *whether* and the declarative complementizer *that*. The content of the functional head Top is the interrogative complementizer *if*⁸ and the declarative complementizer *null that* as in Figure 6.

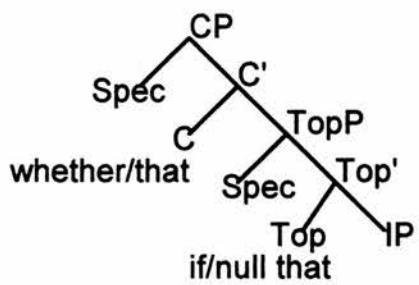


Figure 6: Functional heads in a Split-CP.

⁶ There are various forms in which a Split-CP has been expressed. For example, Culicover (1991) calls it PolP (Polarity Phrase) analysis while Laka (1990) refers to it as *Æ* phrase. Hoekstra (1993a, b) proposes that there are three maximal projections under CP in some Dutch dialects. He names these CIP, TopP and WhIP.

⁷ This is in contrast with the standard analysis of V2 proposed in den Besten (1983) and Schwartz & Vikner (1992) wherein an inverted verb is moved to C.

⁸ *If* is commonly referred to as a conditional and not an interrogative complementizer as proposed in Nakajima's account (cf. Stuurman 1991). According to Kayne (1991) the difference between *whether* and *if* is that *whether* is a wh-phrase generated in the Spec-CP position and *if* is a lexical complementizer C⁰ which occupies the head position.

Given the two complementizer-type positions, the composition of a clause is such that it does not always have to project all the way up to a CP with a TopP embedded under it. A *that* or *whether* clause projects up to CP while *null that* and *if* clauses project only up to TopP⁹. If *null that* and *if* are both Top-type C, they would display an identical syntactic distribution across construction types. This is also true of *that* and *whether*. There is distribution evidence which shows the differences in the composition of the different complementizer-types.

2.3.1 Distribution Evidence

Examples (13) and (14) show the distribution of the interrogative and declarative complementizers.

13.

- a. I wonder *whether/if* he's awake.
- b. I am not sure *whether/if* he's awake.
- c. We must answer the question *whether/*if* this is correct.
- d. *Whether/*If* he's awake is not certain.
- e. *Whether/*If* he's awake, I don't know.
- f. I am not sure because I have not been at home, *whether/*if* he's awake.

14.

- a. I think *that/ Ø* he's awake.
- b. I am not sure *that/ Ø* he's awake.
- c. We must show proof *that/* Ø* it will be fine.
- d. *That/* Ø* he's awake is certain.
- e. *That/* Ø* he's awake, I don't believe.

⁹ Recall that the objection to *that-less* clauses as CPs was based on the fact that the functional head C is contentless. In Nakajima's account *that-less* clauses do not project all the way up to CP. They only project up to TopP. Thus even if the head Top does not have a distinct phonological content it does have a distinct semantic matrix (since it marks the illocutionary force of the clause) and thus cannot be considered a contentless projection.

f. I am sure because I have been at home, *that*/* \emptyset he's awake¹⁰.

In (34) and (14) the distribution of the declarative complementizer *that* is identical to that of the interrogative complementizer *whether*. Both complementizers alternate with Top-type Cs as complements of a V(erb) (13a, 14a) and A(djective) (13b, 14b). Both complementizers occur in Verb-Object Complement Constructions as shown in (13c, 14c) and can occur in positions where they are dislocated from their heads. For example, in (13d, 14d) as subjects, (13e, 14e) in a topicalization position and in (13f, 14f) in an extraposition position. This is expected if both complementizer-types are CP-type Cs.

Similarly, the distribution of the lexical complementizer *if* resembles the distribution of *null that*. Both complementizers alternate with CP-type Cs as complements of a V (13a, 14a), and of an A (13b, 14b). But they cannot occur in Verb-Object-Complement constructions (13c, 14c). They cannot occur in positions where they are dislocated from their heads (13d-13f and 14f-14f). This is also expected if both *null that* and *if* are Top-type Cs. This difference in the syntactic distribution of the different complementizer-types provides collaborative evidence of their status as different C-types. While *overt that* is a CP-type C *null that* is not. *Null that* is a Top-type C. Thus *null that* and *overt that* occupy different CP-level functional heads.

2.3.2 Composition Evidence

There is a distinction in terms of the composition of the two complementizer-types. One such area of difference is topicalization.

15a. Busi believes [that Gregg_j, Mary doesn't like t_j].

15b. Busi believes [*Gregg_j, Mary doesn't like t_j].

¹⁰ Examples (13 & 14) have been taken from Nakajima (1996:144). However, what we have called Verb-Object-Complement clauses are referred to as complements of N(oun) in Nakajima's account.

The above examples reflect an internal difference in the composition of *that* and *that-less* clauses. As discussed in 2.2.1.1, topicalization is possible with *that-clauses* but not with *null that-clauses* (Rochemont 1989; Kayne 1991; Doherty 1997). The overt declarative complementizer *that* generated under the functional head C projects into a CP. In (15a) the CP is projected and there is an empty TopP under it. The functional head Top is empty and the strong <+Top> feature can trigger movement of the phrase being topicalized to the Spec-TopP position which is also empty. Topicalization is not blocked in CP clauses. However, topicalization is blocked in Top-type C clauses because the functional head Top is already occupied by the complementizer *null-that*.

Similarly, topicalization is also possible in *whether* clauses which are CP-type C and not with *if* clauses. In (16) and (17) preposing *or not* is possible in a CP-type clause.

16a. She does not tell me whether she agrees *or not*.

16b. She does not tell me whether *or not* she agrees.

17a. She does not tell me if she agrees *or not*.

17b. *She does not tell me if *or not* she agrees.

The effect of preposing *or not* is a consequence of topicalization. Note that the composition contrast between *whether* clauses in (16b) and the *if* clauses in (17b) resembles the distinction observed in topicalization in the declarative clauses in (16a) and (15a). The *whether* clause in (16a) which, like the *that* clause in (15a) is a CP and can trigger topicalization as in (16b). *Whether-clauses* have a TopP whose head is not filled. The strong <+Top> features can trigger topicalization. The *if-clause* in (17a) is a TopP whose functional head is filled by the complementizer *if*. Topicalization cannot be triggered in this clause. This results in *or not* topicalization being blocked. Thus only CP-type C clauses can be topicalized and Top-type Cs cannot.

Another piece of collaborative evidence that *null* and *overt that* are generated under different functional heads comes from the *whether/if* alternation. Both *that* and *whether* which are CP-type Cs are allowed in the focus positions of cleft sentences.

18a. It is *whether/*if* you were planning to submit that I asked.

18b. It is *that/** \emptyset I was planning to submit that I asserted.

Given that the focus position of cleft sentences permits the occurrence of NPs and PPs but disallows VPs and APs, this suggests a difference in the categorial status of CP and Top-type C clauses. Since *if* and *null-that* clauses (Top-type C) are disallowed in the focus positions of cleft sentences, this suggests that Top-type C is a verbal head while CP-type C is not. The question is: is Top a verbal head? What evidence is there to suggest that Top is a verbal head?

As discussed in 2.3, in a Split-CP-hypothesis it is assumed that an inverted verb in V2 languages moves to the head Top (Müller & Sternefeld 1993). The head Top accommodates verbs. Given that during verb movement the verb moves from the head V to other verbal heads such as Tense, Agr₀, Agr_s, it follows that Top is also a verbal head. If Top is a verbal head, then TopP is a verbal projection and this explains why *if* and *null that* clauses cannot occur in the focus position of cleft sentences. Verbal categories are blocked from occurring in this position. Hence there is a categorial distinction between Top which is a verbal head and the functional head C¹¹ which is not.

2.3.3 Complement Selection

Splitting the CP node into a CP and TopP suggests that complement clauses can be CP or TopP. The distribution of Top-type C clauses is much more restricted than that of CP-type C clauses. It has been established that CP-type C clauses can occur as complements of V,

¹¹ While Ouhalla (1991a), Webelhuth (1992) and Williams (1993) claim that *that-clauses* are nominal, Grimshaw (1991, 1993) claims that CP is a verbal head which seems to contradict what we have just stated about Top-type C being a verbal head. Grimshaw does not split the CP, hence the distinction between the two complementizer-types is not as clear-cut as we have made here.

A and in Verb-Object-Complement (VOC) clauses. They can also occur in positions where they are dislocated from their heads. In contrast, Top-type C clauses, i.e. *that-less* and *if-clauses*, cannot occur in VOC clauses and in dislocated positions. But why is it possible for CP-type C clauses to occur as complements to all sorts of lexical heads and in dislocated positions while it is not possible for Top-type C clauses to occur in the same positions?

2.3.3.1 Canonical Structural Realisation

The ability of CP clauses to be complements to all sorts of lexical heads follows from Chomsky's (1986) canonical structural realisation of a theta-role. Chomsky (op.cit.) states that all lexical heads which take complement clauses s-select the theta-role of proposition. CP is the canonical structural realisation of proposition. The theta-role proposition is also realised in IP, especially in complement clauses of raising predicates and Exceptional Case Marking (ECM) verbs (Haegeman 1994, Nakajima 1996). Chomsky (op. cit.) views the CP as a full clause while the IP is a reduced clause. He suggests that a full clause is "the normal canonical structural realisation of proposition" (1986:190). Since CP is the largest clausal category, it can embed TopP and IP. According to Nakajima (1996) "TopP and IP are its marked structural realisation" (p152).

As indicated, every lexical head can s-select proposition and *ipso facto*, all lexical heads can c-select CP which is the canonical structural realisation of proposition. In consequence, CP-type C clauses can be complements to all sorts of lexical heads. CP-type C clauses (*whether* and *that-clauses*) are allowed as complements of V, A and in VOC clauses without any restrictions. However, under canonical structural realisation, the c-selection properties of a lexical head can be inferred from its s-selection properties. Because lexical properties (including s-selection properties) are to be preserved at all levels of syntactic operation¹², a CP-type C dislocated from its head can always be inferred on the basis of the s-selection properties of the lexical head which they are complements

¹² This follows from the Projection Principle which stipulates that the thematic structure of lexical items must be saturated in the syntax.

of. In consequence, CP-type C clauses can occur in dislocated positions and in VOC clauses.

2.3.3.2 Selection Checking

Marked structural realisation of a theta-role cannot be deduced from the s-selection property of a head. Thus for marked structural realisation c-selection has to undergo the “checking of complement selection” (1996:153). Recall that marked structural realisation of proposition includes TopP and IP. The selection of IP in complements of raising and ECM verbs is “an idiosyncratic property of a head” (Nakajima 1996:153). Yet selection of TopP is not completely idiosyncratic. It can be inferred from the s-selection property of a head. From the examples in (13) and (14) it can be said that verbs and adjectives that s-select proposition also c-select TopP and CP.

The difference between the two complementizer-type categories is that while the c-selection of CP follows automatically from the s-selection properties of the relevant lexical heads, this is not the case with the c-selection of TopP. For example, not all lexical heads that s-select proposition c-select TopP. The lexical head V in VOC clauses s-selects proposition but it does not c-select TopP. It is for this reason that those categories selected for marked structural realisation must go through a “selection checking” process in order to check if the head has selected “appropriate categories as its complements” (Nakajima 1996:153). Selection checking is accomplished through selection feature checking.

2.3.3.2.1 Selection Feature Checking

Selection feature checking¹³ can be fulfilled if the two heads (i.e. the selecting and the selected head) agree in c-selection features (Svenonius 1994). A category c-selected by a marked structural realisation has to raise and adjoin to the head that c-selects it and this occurs at LF. Once the head has raised, it will be in the checking domain of the selecting

¹³ Selection feature checking is an extension of Chomsky’s (1995) checking theory of inflectional features.

head. For example, in Figure 7, Top which is a marked structural realisation of proposition has to undergo selection checking by raising and adjoining to the matrix V. After raising, the head Top is in the checking domain of V and the two heads agree in terms of the features $\langle a, b \rangle$.

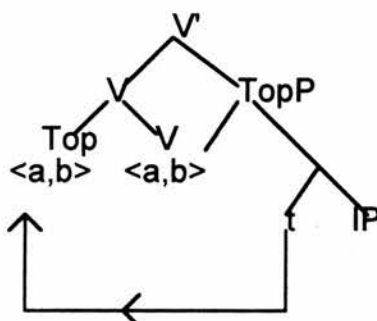


Figure 7: Selection Feature Checking.

The features used for selection checking are “inherent categorial features” (Nakajima 1996:155). Since Top is a verbal head (see 2.3.1), it has the categorial features $\langle +V \rangle$ which serve as features for selection checking by the head it would have raised to. As the features to be checked are $\langle +V \rangle$, they can only be checked off against heads with similar features. The lexical heads V and A are verbal and therefore Top can only raise to these heads. Thus Top-type C clauses can only occur as complements of V and A.

Selection feature checking also explains why a Top-type C cannot occur in a position dislocated from the head such as in instances of topicalization, extraposition and sentential subject position (see examples 13d-13f and 14d-14f). If a Top-type C complement were to be in a dislocated position then for it to undergo selection feature checking it would have to “lower” to the matrix head. Lowering movement is illicit and yields an ungrammatical output. More importantly, the “dislocated positions are all islands or barriers to head movement” (Nakajima 1996:155). Any head-movement out of islands forms an illicit head chain. Hence Top-type C clauses cannot be dislocated from their heads.

To summarise: we have provided various types of collaborating evidence that *null* and *overt that* have distinct categorial status within the CP-layer. The difference in the two

complementizer-types has been captured under a Split-CP analysis. Although *null that* does not have a distinct phonological matrix, it consistently displays all the syntactic properties of Top-type C clauses which suggests that it belongs to the same category as overt Top-type C complementizers. This indicates that *complementizers-less clauses are not IPs but TopP which is a CP-level functional projection*. In fact, phonological nullness is an inherent property of FCs (see 2.1.2.2). Null determiners lack phonetic content but have intrinsic content and they project into a DP¹⁴. Similarly, *that-less* clauses project into a TopP. It can be assumed that phonologically empty functional heads have intrinsic content.

This is not a unique conclusion as “auxiliariless” finite clauses have also been identified as IPs headed by a null INFL category (Radford 1997). It is also not an unreasonable conclusion as there are natural languages with null FCs. For example, Kulemeka (1993) states that Chichewa¹⁵ has null tense (the tense morpheme is not phonologically realised) in ideophonic sentences. This raises interesting questions on underspecification of FCs. The questions that immediately come to mind are: what is underspecified when a functional category is underspecified? Is it the phonological matrix of the functional head or does this refer to underspecification at the level of syntactic computation? These questions lead to the need to tease apart phonological underspecification from grammatical or syntactic underspecification (Hyams 1996). Second, it also raises interesting questions for the acquisition debate: if there is no evidence of a FC in a learner’s utterance, could this be evidence of missing FCs or could it be that the learner has FCs without phonetic content? Can absence of a phonological matrix be evidence that a FC is missing in the developing grammar? We examine these issues next.

2.4. Generative Approaches to Language Acquisition

As stated (see 2.1), within the Chomskyan generative school, grammar refers to the knowledge which native speakers have of their primary language. The goals of linguistic

¹⁴ See Radford (1997), Baptista (1997), Luchesi (1993), Abney (1987), Longobardi (1994) and Progovac (1998).

¹⁵ Chichewa is an African language spoken in Malawi, Zambia and some parts of Zimbabwe.

theory are to explain the content of grammar and how it is acquired and put to use (Chomsky 1981, b, 1986). Specifically, it is concerned with how children acquire complex linguistic knowledge or competence (Chomsky 1986).

2.4.1 Knowledge of language

Chomsky (1965) characterises L1 knowledge of language as competence which consists of “not only the set of well-formed sentences, but also the full range of subtle intuitions native speakers possess” in the given language. Aldridge (1989) views L1 competence as grammatical competence or I-language. What is striking about L1 acquisition is that all children achieve native competence by constructing an underlying grammar that is in all major respects indistinguishable from that of adult native speakers. The question is: how do children acquire this knowledge?

2.4.2 The Logical Problem

The logical problem of language acquisition relates to the problem of explaining how children come to acquire very complex structural properties of grammar such as subadjacency, structure dependency etc. of their native languages in a relatively short period of time and on the basis of ‘degenerate’ and deficient input¹⁶. The linguistic competence of children and adults includes linguistic properties which are impossible from the input. Although children must be exposed to input before any language acquisition can take place, the input data are deficient. These do not provide precise and adequate information about the complex sentences in the language. One example is the ability of children to produce computationally complex structures such as (19a) and yet, a much more computationally simple sentence like (19b) has never been attested in the developing grammars of English L1 and L2 acquirers. Sentence (19a) is structurally more complex as it involves movement from the matrix clause to a clause initial position while in (19b) the sentence includes a simple structure independent rule. It involves movement of the verb in a linear ordering of words.

¹⁶ The logical problem of language acquisition is sometimes referred to as Plato’s problem or the “poverty of the stimulus”, i.e. how come we know so much when there’s so little evidence? (Chomsky 1981).

(19a) Is the picture which is on the wall beautiful?

(19b) *Is the picture which on the wall beautiful? (Chomsky 1975).

In addition, adult linguistic knowledge consists of unconscious knowledge not only about grammaticality but also, about the ungrammaticality of sentences. Since children learning their L1 do not receive negative evidence on what is possible and what is not in the language, how do they come to know which structures are not possible in their target of acquisition? It is assumed that correction or negative evidence is not used by learner in determining which structures in the native language are grammatical and which ones are not (Valian 1989; Pinker 1989a).

Children are also exposed to 'degenerate' input in the form of ungrammatical sentences. Adults make mistakes and sometimes abandon statements before completing them. Such input includes both grammatical and ungrammatical sentences. It also contains forms that are partially grammatical. Similarly, L2 learners may be exposed to 'degenerate' input in the form of "foreigner talk". The problem such input poses on learners is that they cannot tell which aspects of the language are exemplars of "good" sentences and which ones are not.

However, some argue that input is simplified and not degenerate. Brown (1977) observes that adults use short and very simple sentences to children. Proposals based on simplified input, however, fail to account for how children acquire complex structures such as coreferentiality and sentential embedding which appear when children are past the stage of having access to simplified input. Arguments for simplified input do not explain how children succeed in determining the properties of grammatically complex and ungrammatical sentences. In fact, simplified input underdetermines adult knowledge in that it does not inform the child learner about the complex properties of language (Wexler & Culicover 1980). White (1989a) states that complex sentences are not a sum of the properties of simple ones. Thus knowledge of simple sentences does not automatically

lead to knowledge of complex ones and therefore children cannot achieve this level of linguistic complexity on the basis of this input alone.

Hirsh-Pasek et al. (1984), Demetras et al (1986), and Moerk (1991) claim that children receive negative evidence regarding the grammaticality of the structures they produce¹⁷. Brown & Hanlon (1970, 1988) argue that children receive negative evidence since they are corrected by their parents and child-minders. In Hirsh-Pasek et al. (1984), Bohannon & Stanowicz (1988) and Bohannon et al. (1990) it is argued that children get negative evidence since mothers repeat what children say and in a way correct children's utterances.¹⁸ Baker & Nelson (1984) state that discourse and situational factors such as recasting trigger syntactic development in children. Thus children gain knowledge about the grammaticality status of their utterances from adults' replies. Farrar (1990) also states that children use corrective feedback in the form of recasting and repetition which have a facilitatory effect in their acquisition of syntax.

However, the usability of negative evidence in L1 acquisition has been questioned (Braine 1970; Morgan & Travis 1989; Pinker 1989a) because although children do get corrected, they often ignore the corrections they get. Whatever incorrect hypotheses children formulate about the language they are acquiring, these cannot be abandoned on the basis of corrections or recasting they get from parents or child-minders. In fact, White (1989a) observes that the error-types cited in these studies do not include the kind of complex structures of which a theory of UG provides an explanation for.

However, although child-minders and parents may correct children's errors (i.e. if they do) this does not explain why there is uniformity in end-states between those who do and those who do not get corrected¹⁹. The fact that there is uniformity in the end-states in L1 acquisition suggests that this feed-back does not play a significant role in the acquisition of

¹⁷ For a discussion of the usability of negative evidence see Long (1996).

¹⁸ See papers in Snow & Ferguson (1977).

¹⁹ Heath (1983), Ochs (1982), Gregg (1996) and White (1989a) argue that error correction is not universal.

grammatical knowledge constrained by UG. Negative evidence is not sufficiently specific to inform learners on the exact nature of the error, i.e. whether the error is related to incorrect morphology, vocabulary or syntax. Negative evidence does not tell the learner how the error is to be corrected and therefore, it cannot contribute to the development of grammatical competence (White 1985b, 1989a).

It could be that learners do not produce some forms of ungrammatical sentences because they never hear such sentences in the input, i.e., they make use of indirect negative evidence. However, both child and adult L2 learners have been known to produce errors which involve the extension of the English past tense regular *-ed* ending to irregular verbs and thus examples like **goed*, **breaked* are well attested in the English acquisition data (Valian 1989, 1990) although they would not have heard them from the input. The fact that learners make such errors even though they have never encountered them in the input suggests that the *absence* of these forms in their input goes beyond what learners hear in the input. In addition, Pinker (1989a) states that it is also not clear what indirect negative evidence is and the circumstances under which ‘unheard’ sentences are designated as ungrammatical. By and large, although properties of discourse or situational context have a role to play in the acquisition of certain aspects of language, these do not provide evidence to the learner on the properties of at least some of the complex structures of their language. Yet children do not seem to have problems in determining which of these sentences are grammatical and which ones are not.

Although the logical problem was first raised in L1 acquisition, a parallel case has been made for L2 acquisition (White 1985b, 1989a; Flynn 1987; Cook 1988). It has been observed that L2 learners never make structure independent errors. They “appear” to know that certain sentences are ungrammatical although they may not have received negative evidence or transferred this knowledge from their L1. This suggests that language learners, whether L1 or L2, acquire linguistic knowledge that goes beyond the sentences they are exposed to in the input.

To summarise: the logical problem of language acquisition relates to the subtle knowledge of complex structures shown by L1 learners about the target of their acquisition without having their attention drawn to them. In L2 acquisition learners also need to determine the complex structural properties of the TL grammar on the basis of impoverished input. Thus “inadequacies of simplified input, negative evidence, context and discourse factors seem to be just as true for the L2 acquisition as they are for the L1” (White 1985b:33)²⁰. But how is it possible in both L1 and L2 acquisition for learners to acquire complex structures on the basis of impoverished data? In generative approaches to language acquisition, it is suggested that children are guided by an innate mechanism or UG. In fact, the main attraction of generative grammar is that it offers a possible explanation to the logical problem of language acquisition (Chomsky 1981, 1986, 1988, Hornstein & Lightfoot 1981, White 1985b). We shall next discuss how UG explains the ‘logical problem’.

2.4.2.1 UG as a Theory of Language Acquisition

In generative linguistics, it is assumed that human beings are biologically endowed with an innate mechanism for language acquisition called Universal Grammar (UG). Children are innately predisposed to acquire language and have biologically endowed knowledge which consists of a set of abstract principles and parameters that constrain the class of attainable grammars and specify the predetermined range that particular grammars fall within. These principles and parameters are a mental structure which constitute the children’s initial state of their L1 acquisition. Children are capable of acquiring any language they are exposed to because UG is not structured with a bias for or against the grammar of any particular language.

UG consists of an invariant system of principles and parameters whose values are open at the initial state (see 2.1). The invariant properties (i.e. principles) form part of the child’s genetic blue-print of grammar and do not have to be learnt. As parameters are initially “open” (Hyams 1986), the values of these parameters need to be determined on the basis

²⁰ However, this is not to suggest that the resultant knowledge is similar to that achieved in L1 acquisition.

of exposure to language input. The task facing the child is that of determining the appropriate values of each of the parameters relevant in the language being acquired.

As indicated in 2.1.2, parametric variation is due to differences in the properties of FCs in different languages. Fixing of parameters means determining the properties of FCs (Radford 1990a; Tsimpli 1991). Since parametric variation among languages is restricted to FCs, it can be said that children do not have to learn the properties of substantives, which are innate and universal. Instead, language acquisition reduces to determining the properties of FCs. To some extent, this explains why children acquire lexical categories before FCs (Radford 1990a, b; Ouhalla 1991b; Tsimpli 1991; Anyadi 1992; Guilfoyle & Noonan 1992; Meisel 1995).

Acquiring the syntax of a language reduces to setting the structural parameters or determining the properties of FCs in that language²¹. What about L2 learners who approach the L2 with already set parameters? For L2 acquisition three possibilities arise. First, if a FC instantiated in the L1 has exactly the same properties as those required in the L2, the learner simply transfers without having to change anything. Second, if a FC instantiated in the L1 has different properties from those required in the L2, then parametric resetting is required, i.e. the L1 properties have to be changed (reset) in order to accommodate the L2 input. The third possibility is parameter activation. If a FC was never instantiated in the L1, but is required in the L2, then the L2 learner has to determine the properties of this FC. Thus in both L1 and L2 language acquisition reduces to determining the properties of nonsubstantive categories.

In summarising, the motivation for UG in language acquisition has been to explain the logical problem of language acquisition. UG theory offers a principled explanation for the rapidity with which children develop grammatical competence in their native language. By positing the existence of a universal set of innately endowed grammatical principles that

²¹ As will be established in chapter 3, this goes against the claims of the Minimal Trees Hypothesis and the Valueless Features Hypothesis.

determine the nature of grammatical structure and the range of grammatical operations found in natural language grammars, an explanation is provided as to why certain error-types are excluded in child grammars. Children will not produce ungrammatical sentences that violate universal constraints. Such UG principles are innate and do not need to be learnt by the child. Therefore, UG minimises the acquisition load placed on the child. However, the problem is that UG accounts for two states of knowledge: the initial state which consists of principles and a finite set of open parameters and a final steady state with the grammar of the target language with its parameters fixed at appropriate values. It does not explain how development or real time language “growth” occurs after this initial state.

2.4.3 The Developmental Problem

Postulating the existence of an innate mechanism for language acquisition does not address the issue of language development in real time. The developmental problem has been investigated in terms of the extent to which developing grammars are constrained by principles of UG and how UG interacts with other factors (both internal and external). In L2 acquisition the developmental problem has been tackled by arguing that IL grammars are natural languages in their own right (Adjemian 1976). If ILGs are constrained by UG, then there is a limited set of pre-determined choices or options available to the L2 learner for the construction of an ILG²². The developmental problem in L2 acquisition has focused on the extent to which ILGs are constrained by UG.

Besides UG there are other external and internal factors which interact with UG in the process of language acquisition which explain language development. Such factors include triggering data, a maturation schedule which may be linguistic or non-linguistic and a learning procedure (often referred to as learnability) which links the triggering data with the relevant parametric values (Hilles 1991). Two hypotheses have been proposed to

²² The accessibility of UG to L2 learners is controversial (see Eubank 1995a).

explain real time language growth, i.e., maturation (in L1) and continuity (in both L1 and L2 acquisition). We shall examine each of these hypotheses in the next section.

2.4.3.1 Continuity Hypothesis

In both L1 and L2 acquisition, the continuity hypothesis claims that all UG principles are available at the onset of acquisition (Hyams 1986; Lust 1994; Pinker 1984; Schwartz & Sprouse 1994; Wexler & Culicover 1980). FCs as part of UG, are underlyingly represented in initial state systems. What is lacking at the onset of grammatical development is the lexical knowledge required to express the available structural knowledge. FCs like complementizers are present from the onset of language acquisition although learners initially fail to recognise them in the input.

However, in the weak continuity hypothesis syntactic development is triggered by lexical learning (Clahsen 1992; Meisel 1992, 1995). Changes in the learner's grammar are attributed to increases in the learner's lexical repertoire (i.e. in addition to other increases in terms of memory size and processing capacities in the case of L1 acquisition). In both hypotheses UG principles do not change. It is the learner's perception of the input that changes over time. In the weak continuity hypothesis restructuring of the initial state grammar is a result of learning of lexical and morphological items together with their associated properties. Because changes that occur are triggered by the input the learner is exposed to, restructuring of the developing grammar is input-driven (Ingram & Thompson 1996; Meisel 1992). The discrepancy between mature state and developing grammars is due to the fact that knowledge of UG principles is initially not revealed in performance (Stevenson & Pickering 1987; Goodluck 1990; Grimshaw & Rosen 1990). Thus continuity accounts do not make provision for extrinsic ordering. Linguistic representations are UG-constrained at all developmental stages.

2.4.3.2 Maturation Hypothesis

In L1 acquisition, the maturation hypothesis claims that language acquisition is controlled by internal, biologically determined mechanisms (Felix 1984, 1988, 1992). UG is subject

to a biologically determined maturational process which predetermines the emergence of UG properties. Child grammars are only constrained by those principles that have matured and violate those that have not. However, the weak maturation hypothesis (Borer & Wexler 1987) proposes that there are UG-external learning constraints which restrict the availability of UG principles up to a certain stage. These are successively lost as a result of maturation. Thus the child's grammar is consistent with UG at all stages. In both hypotheses restructuring of the developing grammar is triggered by some form of biological maturation schedule.

In recent acquisition research the maturation/continuity views relate to the status of FCs in developing grammars. The question in both L1 and L2 acquisition is whether early syntactic systems are characterised by an absence of FCs. We shall examine the status of FCs in early L1 acquisition because, as will be seen in the next chapter, a parallel case is made for L2 acquisition.

2.5 Acquisition of FCs

The acquisition debate both in L1 and L2 acquisition revolves around the status of FCs in the very early stages of development. There is controversy regarding whether FCs are consistently available throughout all stages of development (Phillips 1996, Hoekstra & Schwartz 1994) or whether these develop gradually (Guilfoyle & Noonan 1992, Vainikka & Young-Scholten 1994).

2.5.1 Emergence of FCs

There are three positions regarding the status of FCs in early child developing grammars. The first is that all functional projections are absent or missing in early grammar (Aldrige 1988; Bloom 1988; Guilfoyle & Noonan 1988; Kazman 1988, 1990; Lebeaux 1988; Ouhalla 1991b; Platzack 1990; Radford 1986, 1990a, b, 1995). As evidence for missing functional projections, it is stated that syntactic properties which implicate the projection of FCs are missing in the speech of children. It is argued that these undergo maturation or develop gradually.

However, some argue against the total absence of FCs by proposing that lower level functional projections such as IP are initially present. The higher projections like CP develop later (Meisel & Müller 1992; Gawlitzek-Maiwald et al. 1992; Déprez & Pierce 1993). Some argue that children have underspecified functional projections (Clahsen 1991, Déprez 1994; Hoekstra et al 1997)²³. Déprez (1994) proposes a Functional Underspecification Hypothesis (FUH) whose central assumption is that functional structure is readily available to the child from UG although feature values of the relevant functional projections (constrained by UG) are initially underspecified²⁴. Thus the FUH is against a complete lack of FCs in very early child grammars.

The unifying factor in these approaches is that the full functional architecture in the adult's syntactic tree is initially incomplete. Some aspects of the functional geometry are missing and they develop gradually by adding FCs stepwise to the syntactic repertoire. In line with Déprez (1994) these may be referred to as Gradual Developmental Hypotheses (GDH) or the Structure Building Hypothesis (Meisel 1995). Since not everyone in this category prescribes to the view of "gradual development" (e.g. Radford 1986, 1990a, b), these hypotheses are best described as "Deficit Hypotheses" (DH) because all argue for a deficit of some sort in the early functional structure of developing grammars. As will be seen in chapter three, similar deficit claims are made for L2 acquisition by the Minimal Trees and the Valueless Features Hypotheses. We examine the details of the deficit hypotheses as these have implications on the claims of missing and incomplete functional structure at the L2 initial state.

2.5.1.1 Deficit Hypotheses

Deficit hypotheses claim some deficit of syntactic representations in early grammars. Although the details differ in terms of what is missing, all deficit hypotheses make the

²³ Clahsen refers to this as the FP (Finite Projection) while Hoekstra et al. call it NumP (Number Projection).

²⁴ Déprez's account reflects a weak continuity assumption similar to Eubank (1993/94) in the context of L2 acquisition. The difference however, is that while Eubank's FCs are inert, Deprez's are underspecified. The similarity is that both predict optionality at the early stages of development.



claim that children's syntactic tree does not contain all of the functional structure (Phillips 1996) contained in adult grammars. Some argue for deficits in all functional projections (Guilfoyle & Noonan 1988; Lebeaux 1988; Radford 1986, 1990a, b, 1995) while others argue for general deficits on specific heads. Wexler (1994) claims there is a deficit in the Tense projection or the features related to T are missing. Radford (1994a, b) argues for a deficit in the functional head Agr. Studies on the acquisition of V2 phenomena argue for an initial deficit in Comp (Clahsen et al 1994; Meisel & Müller 1992; Déprez & Pierce 1993; Déprez 1994). There are also those who argue that early developing grammars show deficits in knowledge about what *is syntactically obligatory* resulting in optionality not evident in the adult grammars (Rizzi 1994; Roeper & Rohrbacher 1994; Haegeman 1995).

Evidence for deficits is usually in the form of the absence of lexical functional elements in overt production. It is assumed that because children's early utterances lack certain grammatical morphemes related to the projection of specific FCs, these FCs must be missing in early child grammars (Radford 1990a, b; Vainikka 1993/94). Radford (1990a, b, 1995) observes that in the very early stages English-speaking children lack articles, subject-aux-inversion, modals, nominative case, singular/plural agreement. As all these are related to the projection of FCs, Radford concludes that children's early grammar has missing FCs although these have lexical phrases such as a VP with a subject in Spec-VP position. Early child grammars are characterised as "small clauses" (Radford 1986, 1990a, b). In Radford's account it is the *absence* of morpho-phonological material associated with functional structure that leads to the claim that early child grammars lack functional structure. The difference between child and adult grammars is that the former lacks the superstructure of functional phrases.

Meisel & Müller (1992) provide evidence for absence of a CP in children learning German. They take the *absence of overt lexical complementizers* from early subordinate clauses as evidence for the early *absence of a CP projection*. Meisel & Müller propose that the CP projection is not yet projected although German speaking children have an

AgrP and a TP. The implementation of the CP projection is triggered by the acquisition of lexical complementizers. The child's grammar therefore differs from the adult grammar because it has incomplete functional structure. Similarly, Déprez & Pierce (1993) state that the CP is not available in the child Swedish, French, German and English learners although learners have lower level functional projections like IP and NegP. The German child learners have V-to-I before V-to-C movement. The German child learners also make adult-like finite/nonfinite verb distinctions. In Déprez & Pierce's account, the difference between adult and child grammars is that children allow subjects to remain in Spec-VP and there is a deficit in the CP projection.

In addition, in Hoekstra et al. (1997) the functional head Num(ber) is underspecified. The absence of overt pronouns and overt determiners in "bare nominals" is taken as evidence that the functional head D is morpho-phonologically underspecified. Thus in Deficit Hypotheses (DH) studies mentioned above, the acquisition of functional projections is triggered by the acquisition of the corresponding functional morphemes. The acquisition of syntax is triggered by knowledge of morpho-phonology²⁵. The emphasis is that FCs are missing in one form or another at the level of morphosyntax. It is *the absence of a phonological realisation for the functional head* that is taken as evidence that a functional projection is missing (Hyams 1992; Borer & Rohrbacher 1997).

The type of evidence used in DH studies has been questioned on the basis that it is inconclusive. Cook & Newson (1995) argue that "evidence of absence is ambiguous" (1995:277) (see Hyams 1992). The main objection to DH is that lack of overt lexical functional or inflectional elements does not conclusively prove the absence of a projection because "from the viewpoint of scientific method absence of evidence for some category does not constitute evidence for its absence" (Poeppel & Wexler 1993:20). Evidence based on absence of items is insufficient and inconclusive because even when a visible functional element is not present, the grammatical category is in the underlying structure

²⁵ However, in Radford (1986, 1990a, 1995), the emergence of FCs is subject to maturation.

(Poeppel & Wexler 1993). Poeppel & Wexler (op.cit.) propose that further evidence in the form of the syntactic correlate of functional projections would be more conclusive.

To summarise: the DH reflects a view of the acquisition of knowledge wherein the developing grammar approximates the adult state by adding FCs to the syntactic repertoire. The evidence most commonly used in support of the DH is the initial absence of functional elements. This type of evidence is inconclusive as FCs may be phonologically null for various reasons other than that they are not represented in the syntax. We shall now examine the Full Competence Hypothesis where evidence is presented that *absence* of surface morpho-phonological elements can be used as evidence of the availability of functional projections.

2.5.1.2 Full Competence

In the Full Competence Hypothesis (FCH) all functional projections are present at the onset of acquisition (Weissenborn 1990; Boser et al. 1992; Hyams 1992; Roeper 1992; Poeppel & Wexler 1993; Wexler 1994; Phillips 1996; Borer & Rohrbacher 1997). The early presence of syntactic structure such as verb movement, early placement of subjects and negation suggest that all functional projections are represented in early grammars.

Wexler (1994) provides evidence of the early presence of syntactic movement. Wexler's evidence is from early child language acquisition from several different languages which imply different kinds of verb movement. On re-analysing Pierce's (1993) data on French negation, Wexler observes that French-speaking children move finite verbs before negative *pas*. The consistency in the distinction between finite V-Neg (e.g. *est pas* mort) and Neg-nonfinite verb (e. g. *Pas manger* la poupée) word order in early child French is adult-like. Similarly, in the German data, children move finite verbs to V2 position which is adult-like. This is also reflected in the V-final nonfinite verbs where there is no possibility of topicalization. This early distinction between finite/nonfinite verbs indicates the early presence of a CP. In mature German it is V-to-C movement which derives V2 and

topicalization: hence the CP must be present in early child German²⁶. Wexler concludes that both IP and CP are projected in child grammars²⁷.

Borer & Rohrbacher (1997) state that the absence of functional elements at the level of morpho-phonology can be used as evidence of their presence in developing grammars. Using minimalist arguments they suggest that since inflection is checked only in the presence of functional structure, absence of functional projections would lead to randomly distributed inflected forms in early grammars. Yet there is empirical evidence in both L1 and child L2 acquisition that when inflection is used it is not random (Harris & Wexler 1996, Haznedar & Schwartz 1997). Borer & Rohrbacher (1997) compare the early speech of children and that of Broca's aphasics. They reason that since from a minimalist perspective, lexical items are drawn from the lexicon fully inflected. If early grammars lack FCs as the DH predicts, then inflected items would be randomly distributed in their speech as in Broca's aphasics.

Borer & Rohrbacher (op. cit.) analyse the use of verbal inflections in the early speech of English, Italian, German and Greek children. They found no evidence of a random distribution of errors involving agreement morphology. Children initially use uninflected forms. Similarly, in child L2 acquisition, Haznedar & Schwartz (1997) do not find any random use of inflection in Erdem's IL grammar. Erdem, a Turkish child learner of English in an uninstructed setting, avoids agreement errors by using non-agreeing but well-formed forms. This seems to suggest that in both L1 and child L2 acquisition,

²⁶ There is controversy surrounding the landing site of topics. Weissenborn (1992) states that there are two distinct positions which could be landing sites, i.e. C or a non-distinct landing site. Boser et al. (1992), Poeppel & Wexler (1991), Roeper (1992), Weissenborn (1988) and Weissenborn et al. (1989) argue that the landing site in the child grammar is C as in adult grammar. Clahsen et al. (1992), Meisel & Müller (1992), and Weissenborn (1992) suggest that the landing site is either a non-distinct functional projection or one other than C. den Besten (1989), Haider & Prinzhar (1986), Haegeman (1991) and Schwartz & Vikner (1992) suggest that the landing site of the moved verb is C. Note, however, that this contradicts the claim that the landing site of topicalized elements is TopP. This is a result of the fact that in these studies the CP has not been split into a CP and TopP.

²⁷ Déprez (1994) argues that given the controversy surrounding the landing site of the verb in V2 languages, the data on V2 and topicalization does not provide conclusive evidence about the projection of CP. Déprez suggests that evidence of a CP projection can be obtained from non-V2 languages. Déprez states that in English it is the absence of Subject-Aux-Inversion in early interrogatives that provides evidence of lack of V-to-C movement.

erroneous forms are avoided because there is functional structure in the learners' grammar to check its use.

In contrast, in Broca's aphasics there is a random distribution of errors involving functional structure. Some verbs substitute first person for third person (Miceli & Mazzuchi 1990). Broca's aphasics lack functional structure (Grodzinsky 1990). Borer & Rohrbacher (op. cit.) argue that the random behaviour shown by Broca's aphasics is expected if words are drawn from the lexicon fully inflected. As functional projections are missing in Broca's aphasics, inflection cannot be checked against the relevant functional heads. Thus for developing L1 and child L2 grammars, the absence of functional elements in the early stages is an indication of "morpho-phonological avoidance". Before the identification of a phonological matrix for the appropriate functional head, learners use uninflected forms which are well-formed morpho-phonological units. Inflectional morphemes are avoided "precisely because of the presence of the functional projections which check their use" (Borer & Rohrbacher 1997:28).

In consequence, the existence of functional structure precedes the knowledge of its morpho-phonological realisation. The FCH therefore predicts instances of early subordination without lexical complementizers (e.g. in Meisel & Müller 1992) because knowledge of *complementation exists independently of the morpho-phonological realisation of lexical complementizers*. Thus L1 and L2 learners can have knowledge of the CP structure of complements but at the same time unable to produce lexical complementizers as their morphophonological realisation may take time to compute (Robertson 1992). As Hyams (1994) states, this shows that the basic premise (employed in DH) of "missing functional element = missing functional category" does not hold as initial grammars make use of null elements.

This is different from the view of "a gradual emergence of functional structure". The notion of "a gradual emergence" implies that FCs are acquired in an implication sequence while the view expressed in the FCH is that the complete functional structure is in place in

initial state grammars. This would mean complementation, as a syntactic correlate of the projection of a CP, exists in initial systems. The derivation of initial complementation may be “partial” or “incomplete” (in as far as adult data is concerned) as lexical complementizers are initially missing at the level of phonological spell-out (Jakubowicz et al 1997). Thus while the DH proposes that early child grammars are characterised by incomplete representations, the FCH claims that incomplete derivations are not a reflection of incomplete representations. They are a reflex of “morphological avoidance”.

In summarising, three views emerge regarding the status of FCs in early L1 grammars. The maturational approach argues for an initial pre-functional stage. Development of FCs is attributed to a maturational schedule. The Gradual Development Hypotheses (GDH), mainly proposed in V2 studies, takes a weak continuity approach and proposes that lower level FCs are initially present whereas higher level projections are missing. Lexical learning then triggers syntactic acquisition. This has been refereed to as the *lexical projection hypothesis*. In contrast, a strong continuity view emerges in the FCH. FCs are present from the onset of acquisition. Incomplete derivations are attributed to morphological avoidance. This has been refereed to as the *functional projection hypothesis*. These different views on the development of functional structure raise questions about the mechanism instrumental to the instantiation of FCs.

2.6 Projecting a FC in a Developing Grammar

In the lexical projection hypothesis lexical learning is instrumental to the instantiation of a functional projection. A lexical functional head must license the creation of a maximal projection. And yet the functional projection hypothesis proposes that the building of syntactic structure occurs prior to the phonetic realisation of functional heads. Syntactic correlates of the projection of a particular functional head are present prior to its phonetic realisation (cf. Demuth 1992a, 1994).

In L2 acquisition, Robertson (1991) in line with Lebeaux (1988), argues that it is only after the lexical acquisition of functional heads that the maximal projections are licensed.

In this regard, overt phonological manifestation of functional heads in the input trigger the setting of parameters. The emergence of syntactic correlates is determined by the acquisition of the properties of lexical items. This position is also expressed in Eubank (1992) who analyses data from a longitudinal study of a Spanish L1 speaker learning German and concludes that the reorganisation of the L2 syntactic representation is brought about by the “emergence of agreement and tense-related morphology” (1992:225).

In L1 acquisition, Verrips & Weissenborn (1992) argue that it is *not agreement morphology* that acts as a trigger for the acquisition of verb movement. Clearly, the argument on the projection of FCs revolves around whether lexical learning precedes syntactic acquisition (in which case, structural changes in the grammar are triggered by the acquisition of lexical and morphological elements) or whether syntactic acquisition proceeds independently of lexical learning. In the latter, the syntactic correlate is complete and the syntax consistently shows properties of the phonologically unrealised functional head. In the former, the syntactic correlate is initially missing and only emerges once lexical functional elements have been acquired.

However, Demuth (1992a), on the basis of SeSotho L1 data, proposes that phonetic realisation is possible only after the emergence of the maximal projection. Demuth separates lexical learning from identification and realisation. The creation of a functional projection depends on identification rather than on phonological realisation. In Demuth’s analysis, the emergence of a FC is possible only once its head has been identified although not yet phonetically realised. Yet Vainikka & Young-Scholten (1994:268) claim that for both L1 and L2 acquisition a FC is only instantiated if the head is identified and thus “once a head is identified the learner will posit an argument position if positive evidence is found”.

By and large, what runs through this debate is the need to tease apart syntactic acquisition from the acquisition of FCs (i.e. lexical items, words, affixes). In a modular approach to

language, syntactic acquisition occurs independently of the phonetic realisation of functional heads. This raises the question: what constitutes evidence that a FC is projected in a developing grammar?

2.6.1 Diagnostics for FCs

In most L1 acquisition studies, it has been argued that it is the overt manifestation of the functional projection which constitutes evidence that the relevant FC is available in the underlying grammar (Radford 1990a). A similar view is expressed in Vainikka & Young-Scholten (1994, 1996a, b) for L2 acquisition. However, Poeppel & Wexler (1993) argue against this view and suggest that more conclusive evidence would be in the form of the availability of syntactic operations that imply the projection of a FC. Thus overt movement can be used as a diagnostic for the presence of a functional projection as movement occurs only when it is required to by some principle of grammar (Chomsky 1986). The association between overt inflections and the underlying functional projection is supported in the PF licensing principle which “requires a syntactic projection to have some lexical”, i.e., “phonological realisation in a language” (Tait & Cann 1990:3) because it is the phonetic realisation of heads that acts as a trigger for the building of syntactic structure²⁸.

However, Schwartz (1991) argues against the use of “overt verbal inflection as the sole diagnostic to determine finiteness”, because by so doing “significant generalisations might be overlooked” (1991:291). Affixes in early ILG might be unanalysed and base-generated with the verb under V (Schwartz op.cit; Eubank 1992). Schwartz suggests that abstract features of a FC which are not overtly displayed in the inflectional morphology on the verb can be used as evidence for the presence of a FC in the ILG. It is therefore important to “consider verbal inflection in conjunction with verb placement, i.e. both what is found and what is not” (1991:291). Schwartz then attributes the surface absence of overt morphological manifestation in the ILG to a difference between the abstract features necessary for the specification of the FC and the possibilities for its morphological spell-

²⁸ Note that Tait & Cann (1990) allow for specifiers to license null heads.

out. It would seem the presence of a FC can be determined on the basis of its abstract features, e.g. word order in conjunction with syntactic operations like movement. Overt manifestations alone do not provide *conclusive evidence*.

As a recapitulation; while there is disagreement as to what constitutes evidence for the projection of a FC in the acquisition debate, there are a number of recent suggestions which indicate that overt manifestations of functional elements on their own, cannot suffice as evidence for the projection of a FC. This suggests that phonetic content may not be a prime indicator of the projection of a FC. This is not a surprising conclusion as it has been shown that FCs can be projected even if they are phonologically null. Their presence in the grammar can be determined on the basis of syntactic operations that implicate their projection. For example, in Progovac (1998), although there are no overt articles in Serbo-Croatian, it is the pronoun/noun asymmetry which is used as evidence for the projection of a DP. Pronouns precede intensifying adjectives while nouns follow intensifying adjectives. Thus lack of phonetic content per se does not imply that a FC is not projected.

We have emphasised that functional structure can be projected regardless of whether it has phonetic content or not. But what independent evidence can be adduced in support of this view? We shall examine this evidence next.

2.6.2 Morpho-phonological Underspecification

Hyams (1996), states that an underspecified functional head is one which has no *lexical* specification or surface morphological content. Hence underspecification of functional heads has morpho-syntactic reflexes in the form of the absence of surface morphophonology. A missing FC has syntactic reflexes such as lack of scrambling if there is no DP or lack of wh-questions, relative clauses, topicalization or subordination where there is no CP²⁹. It implies a deficit at the conceptual-interpretive level or a

²⁹ As it will be established in chapter 3, this is what the Minimal Tress Hypothesis claims for initial and early L2 systems.

representational deficit at syntactic computation. In contrast, morpho-phonological underspecification exists at the phonetic/phonological level but the respective functional projection exists at the level of syntactic computation (Jakubowicz et al. 1997). What is 'missing' is the phonetic/phonological matrix of the functional head.

Where underspecification refers to the phonological component, the shift from a grammar without lexical functional elements at surface morphology involves a restructuring of the mapping between syntax/grammar and phonology³⁰. This suggests that in both L1 and L2 acquisition the development of lexical functional elements involves an interaction of distinct modules such as syntax, phonology, semantics etc.. This interaction manifests itself by an uneven development in different domains. For example, the initial absence of lexical complementizers in both L1 and L2 acquisition is an indication that there is a difference between the acquisition of complementation and that of lexical complementizers. The acquisition of complementation is a semantic/syntactic phenomena whereas the acquisition of complementizers involves lexical learning.

The choice of a complementizer depends on the selection properties of specific verbs. Selection properties must be learnt and lexical complementizers must undergo the same process of lexical learning. Thus in both L1 and L2 acquisition learners have to know the subcategorization frames of specific verbs first³¹. Before identifying verbs that take sentential complements, lexical complementizers may be missing in the data although complementation is present. In fact, as will be seen in chapter seven, this is supported by the findings of this thesis.

The point here is that phonological underspecification is different from a grammatical or syntactic deficit. Hyams (1996) states that the difference between the two is that underspecified phonological segments get filled in, while missing FCs do not and thus give

³⁰ In Jackendoff's (1997:42) representational modularity this shift takes place in the "interface modules" which communicate between two levels of encoding; in our case these levels would be syntax/grammar and phonology.

³¹ However, L2 learners already know these from their L1.

rise to agrammatic early systems (Ouhalla 1993; Platzack 1990, 1996)³². An initial grammar without a complementizer or a determiner is agrammatic while one with a phonologically underspecified functional head C or D is not. The head gets filled in after the specification of the relevant phonetic/phonological matrix.

Given economy considerations assumed in the minimalist program (Chomsky 1995), it follows that conditions on grammatical representation are motivated by properties of the two interface levels, i.e. PF and LF. The auditory/perceptual requirements of PF will lead to the specification of phonological features since underspecified segments are unpronounceable. On the other hand, grammatical categories must be specified as required by the conceptual-interpretive system (Epstein et al. 1996). If natural language grammars do project FCs with no phonetic content as shown in the Chichewa and Capeverdean Creole case (see p), it follows that the interpretive requirement is satisfied irrespective of what happens at the phonological level. This seems to suggest that grammatical knowledge is, and can be, forestalled while phonological specification of the functional element would not have been satisfied. The fact that there is a considerable lag between the time the learner sorts out the lexical functional elements might be a mirror of this difference in the specification of the different modules. Hence the availability of syntactic representations cannot be tied to morphophonological development (Lardiere 1998).

In summarising, it has been emphasised that functional elements are initially present in early grammars. In the FCH, lexical functional elements (affixes, clitics, free morphemes) are initially avoided. Their absence at surface morphology is attributed to morphological avoidance. Although functional heads may remain null, all syntactic operations associated with the projection of the functional head are available. The difference between the adult and early child grammars is in the E-language, i.e. in the lexical phonetic realisation of grammatically licensed FCs. From the viewpoint of the FCH, although functional elements are initially not represented at surface morphology, these are present in mental

³² Ouhalla (1993) and Platzack (1996) discuss this in the context of L1 acquisition although Platzack extends this to L2 acquisition and to Broca's aphasics.

representation. However, in the DH, they are missing because they have to first undergo a process of lexical learning which will trigger the acquisition of the appropriate syntactic correlate.

On the other hand, in both L1 and L2 acquirers do not always reflect categorical representations. Beginner learners show variable output. Is this variable output an effect of competence or performance?

2.7. Variable Output

The term variability has been used to refer to three different forms of variable output (Pandey 1997). Variable output may arise out of different groups of language users especially in cases of standard and dialectal varieties (Henry 1995, 1997a, b). This type of variation has been referred to as “E-variability” (Pandey 1997:93)³³. It relates to what language users do or say. It is an effect of performance. Variability is also used to refer to the kind of variable output shown by a single individual as a result of knowledge of a number of languages. This is evident in sociolinguistic code switching when individuals switch between different languages. This variability is attributed to the co-existence of different grammars in the mind of an individual. The resultant variable output is a product of separate grammatical systems underlying the same competence. It is similar to the variable output shown in diachronic change.

Variable output manifested in variability within a single I-language is grammar-internal or operating within the same internalised system. This type of variation also occurs in stable mature state grammars such as Zulu. In Zulu topics maybe derived by movement or by non-movement. For example in (20a) the object *lesiyasidakwa* can be topicalized giving rise to (20b) or (20c). As can be seen the difference between (20b) and (20c) is that in (20c) there is a resumptive pronoun. This suggest that movement (with a pronoun) has occurred (see discussion in chapter 5). It can be assumed that in (20b) the topic NP *lesi*

³³ This is in line with Chomsky's distinction between E- and I-language. E-language is performance while I-language is competence or tacit knowledge.

sidakwa is base-generated in the topic position. Such a grammar (like Zulu) is assumed to allow two distinct settings for the same parameter.

20a. UThoko u the aka zi *lesiya sidakwa*.
 a/the Thoko AgrS-say Neg-know *that drunkard*
 (Thoko say she does not know *that drunkard*).

20b. *Lesiya sidakwa_j*, uThoko u the aka zi *t_j*
 (that drunkard, a/the Thoko AgrS say Neg-know
 (*That drunkard, Thoko says she does not know)

20c *Lesiya sidakwa_j* uThoko u the aka *sa* zi *t_j*.
that drunkard_j; a/the Thoko AgrS-say Neg-AgrO-know *t_j*
 (That drunkard, Thoko says she does not know it)

The two alternative representations for topicalization are said to be optional. Thus in Pandey's account this is an instance of optionality rather than variation.

2.7.1 Variability and Optionality

In SLA variability has been dealt with in the capability continuum (Tarone 1988) and the variable competence model (Ellis 1985; 1994) where variable output is due to the amount of attention paid to form. Optionality, on the other hand, is a result of two alternative mental representations for a single grammatical construction (Sorace 1996b). It is a controversial concept as it is against the spirit of the Minimalist Program (MP). The assumption in the MP is that "language is a perfect system" and linguistic competence is "categorical" (Guy & Boberg 1997). Constructs in generative linguistics are invariant and categorical. Grammatical competence represents a single set of parametric choices among options permitted by UG. The possibility that a language can instantiate contradictory choices for certain UG options is rejected. Guy & Boberg (op. cit.) argue that there is "inherent" variation within competence and that parameter settings are not always

mutually exclusive (cf. Juffs 1996b). The co-existence of two parameter settings for the same parameter is not excluded from UG³⁴. A UG-constrained grammar can display optionality only if it is not costly to the grammar (Fukui 1993).

2.7.2 Optionality and Language Acquisition

In L1 acquisition children go through stages of temporary optionality which allow for the co-existence of forms that are mutually incompatible in mature state grammars. Children learning non-null-subject languages often alternate between finite and nonfinite verbs in main declarative sentences showing optionality where an adult grammar requires a categorical rule involving a finite form (Weverink 1989; Jordens 1990; Crisma 1992; Boser et al. 1992; Kramer 1993; Rizzi 1994; Wexler 1994; Sono & Hyams 1994; Hyams 1996; Phillips 1995; Hoekstra & Hyams 1995; Jonas 1995; Bromberg & Wexler 1995; Schütze & Wexler 1996). In child grammars optionality is attributed to maturational constraints or the underspecification of functional elements. This type of optionality is resolvable as children retain the form permitted in the adult grammar.

Early IL grammars also reflect instances of optionality not evident in mature state grammars (Eubank 1994, 1996; Robertson & Sorace in press). In Ellis (1985) the Portuguese-English IL grammar shows evidence of genuine grammar-internal optionality. The Portuguese boy produced two alternative representations for negation during the same card game, (i.e. *no look my card* vs. *don't look my card*), indicating that the variation is not related to discourse or situational changes. du Plessis, Solin, Travis & White (1987) provide more evidence of grammar-internal optionality in their re-analysis of Clahsen & Muysken's (1986) study of the development of word order in L2 German. The learners had both adverb fronting with V2 and adverb fronting with SVO. In root clauses learners alternate between I-to-C movement and a non-movement construction

³⁴ This is supported in language change. For instances of optionality during diachronic change, see Kroch (1989) for Middle English, Santorini (1992, 1993) early Yiddish, Fontana (1993) for Middle Spanish and Pintzuk (1993, 1995) for Old English. Instances of grammatical competition during the process of language change have also been reported in Taylor (1994) in Ancient Greek and Kroch & Taylor (1994) in Middle English.

presumably transferred from English. They also show the same level of optionality in embedded clauses.

Du Plessis et al suggest that the observed optionality in root clauses is sanctioned by UG because adverb fronting with V2 and adverb fronting with SVO is instantiated in Spanish. They argue that because Spanish permits both possibilities, then the English-German ILG is constrained by UG. Learners initially transfer their English SVO word order but on exposure to German V2 they do not abandon their initial hypothesis that includes SVO. Both word order possibilities characterise their ILG. The alternatives are drawn from the L1 and from the L2. The optionality found in embedded clauses is attributed to the instantiation of both head first and head last for the head parameter. Because this parameter has exclusive values, this optionality is a reflection of “a period of transition between parameter settings” from the initial L1-like grammar to the newly acquired L2 value.

These studies show that in L2 acquisition learners go through developmental stages which are characterised by optionality. Optionality may arise when the grammar of a previous stage competes with the grammar of the next developmental stage. The most common form of optionality arises when the L1 knowledge system competes with the knowledge of the L2 giving rise to the co-existence of a form instantiated in the L2 and one instantiated in the L1³⁵. In L2 acquisition optional forms have a double base: i.e., the L1 and the L2 or any other language known by the learner. Because L2 learners often transfer their L1 forms, optionality is often characteristics of all stages of development. At the initial state, it might be a result of a form required in the L2 but not available in the L1. In this case optionality may be a result of lack of knowledge. Secondly, at intermediate stages it could be due to a competition of grammars from adjacent stages or an initial L1-like form in competition with the newly acquired L2 form. This kind of optionality may be difficult to resolve because L2 learners end up in “local maxima” (Berwick & Niyogi 1996) because of the unavailability of triggering data.

³⁵ Note, however, that this type of optionality is not accounted for in Minimalism.

To conclude: this chapter has dealt with various aspects related to the development of grammatical competence. Central to the discussion in linguistic theory and language acquisition has been the status of null FCs in a grammar. It was established that phonologically null FCs can have intrinsic content and can be projected in a grammar. In the acquisition debate, it was argued that absence of functional elements at the level of phonological realisation is not evidence that FCs are missing. The absence of its syntactic correlate would provide more conclusive evidence for its absence. The acquisition debate also focused on two standardly recognised problems in language acquisition: the logical and the developmental problem. The developmental hypotheses that were examined were (1) the maturation hypothesis which attributes developmental stages to a maturational schedule, (2) the strong continuity hypothesis which claims that developmental stages are in part a reflex of morphological avoidance of elements which are not salient in the input and (3) weak continuity which attributes developmental stages to lexical learning. It was also stated that developing grammars exhibit instances of optionality which is resolvable in L1 acquisition and difficult to resolve in L2 acquisition. In the next chapter we examine issues specific to the development of L2 competence.

Chapter 3

The Second Language Acquisition of FCs

3.0 Introduction.

This chapter examines issues related to the acquisition of functional structure in L2 acquisition. Attention is paid to the fact that the L2 learner already has a fully formed grammar in the form of the L1. We examine the role the native grammar plays in L2 acquisition especially at the initial state. We also examine how the initial state influences subsequent IL development. Central to this chapter are theoretical issues related to: (1) the nature of the initial state grammar, (2) the nature of the input and (3) the final state achieved at ultimate attainment. Regarding (1) we examine aspects of the L1 that exert an influence on the L2 and the extent and exact nature to which these influence the L2 acquisition process¹. Although L2 research has always acknowledged that the native language has a role to play in the acquisition of an L2, earlier research did not establish what aspects of the L1 transferred². Recent research has reduced the transfer debate to one of the extent to which FCs are represented at the L2 initial state (Schwartz & Sprouse 1996).

In relation to (2), we examine the nature of the input and the role it plays in triggering the acquisition of UG properties. We examine how input is perceived or “apperceived” (Gass 1988) by learners. The focus is on the type of evidence available to the L2 learner and its usability in the development of L2 competence. We also examine whether the availability of positive evidence necessarily guarantees that it will be taken in. Finally, issues related to development will also be dealt with, i.e. how the ILG evolves from the initial state up to ultimate attainment. Thus the chapter anchors the SLA theoretical background for our investigation.

¹ For a review of studies on L1 influence, see Gass (1980, 1984, 1996).

² Eubank (1995b) gives examples of titles which show the fuzziness about the aspects of the L1 that transferred, i.e. Andersen's (1983) “Transfer to Nowhere”, Kellerman's (1983), “Now you see it, now you don't”, Selinker & Lakshmanan's (1992) “Language Transfer: The Multiple Effects Principle”, Kellerman's (1995) “Cross-linguistic Influence: Transfer to Nowhere”.

3.1 L2 knowledge of Language

The question of L2 knowledge of language hinges on whether IL grammars are natural languages or not, and if so, whether L2 acquisition is as complete as L1 acquisition is. It has been asserted that interlanguages are languages in their own right (Adjemian 1976; Selinker 1972; Schmidt 1980). Corder (1967) proposed that properties of L2 learners' language that differ from those of adult native speakers are evidence for the cognitive processes that underlie the learners' linguistic behaviour. Selinker (1972) also states that the L2 learner's linguistic behaviour is "determined in part by a language system, an interlanguage system" (Ritchie & Bhatia 1996a:8) which is different both from the learners' L1 and from the TL native-speaker system. Adjemian (op.cit.) suggests that this system has a grammatical component. Adjemian hypothesised that ILGs are "constrained by universal principles of grammatical structure" (Ritchie & Bhatia op.cit.) just like any other native grammar.

Nemser (1971) proposed that the L2 learner's competence is represented by a series of internalised grammars. The IL hypothesis proposes that IL grammars are rule governed and systematic like any other natural language (Corder 1971, 1981; Selinker 1972) and that L2 learners have an internalised system at every stage of acquisition. In the IL hypothesis IL grammars at each developmental stage represent knowledge of language. These studies emphasise that IL grammars are natural languages.

If IL grammars are natural languages, then they are UG-constrained. This has been assumed in the UG-based research³. ILs are natural languages because they are "possible" grammars in UG terms. Thus competence in an L2 is represented as an internalized system of principles and parameters. The transitional nature of IL grammars is a manifestation of the changes in competence over time. Hence at each developmental point, the IL grammar forms the learner's interim competence which is characterised by a system of abstract rules.

³ See White (1996a, b) and Flynn (1996) for a summary of UG-based SLA research.

If ILs are indeed natural languages their development should be comparable to L1 development such that once a parameter has been activated or reset, this should be followed by restructuring (McLaughlin 1987) in the rest of the grammar so that the system is consistent with the newly set parameter. There is evidence that near-native L2 competence is different from that of native speakers (Coppieters 1987; Birdsong 1989; Sorace 1993; Ratwatte 1995). The grammatical intuitions of near-natives indicate that the underlying L2 knowledge does not always resemble native speaker knowledge (Coppieters 1987; Sorace op.cit.). The mental representation L2 learners have of the TL grammar may coincide with those of native speakers (Birdsong 1992; Ioup et al. 1994; White & Genese 1996) or it may be incomplete (lack certain properties of the L2) or divergent (i.e. consistently differ from the TL) (Sorace op. cit.). These varying degrees of "success" reflect the different states of grammatical competence not normally found in L1 acquisition. This raises questions whether the logical problem is applicable in L2 acquisition.

As indicated in 2.4.2, the logical problem in L1 acquisition was proposed to account for the universal success shown by children on the basis of impoverished input. In L2 acquisition, adult L2 learners are generally not successful in acquiring native-like competence. In consequence, Quintero (1992) states that the logical problem may not be an issue in L2 acquisition because success is very rare (Schachter 1996). In examining similarities and differences between children and adults Krashen, Long & Scarcella (1979, 1982) show that adults are less successful than child learners which indicates qualitative differences between child and adult language acquisition in terms of success at ultimate attainment. This lack of success has been termed "universal failure" (Rutherford 1989) or "general failure" (Bley-Vroman 1989).

Although there are differences in the success rates between child and adult learners, there are similarities in developmental sequences in the grammars of both adults and children (Krashen 1985). Children and adult learners overgeneralize (Karmiloff-Smith 1984;

Bowerman 1982; Kellerman 1985). For example both L1 and L2 learners extend the third person plural -s to nouns like *foots* and the regular past tense -ed to *runned*. This suggests that the developmental problem may be similar in both acquisition processes. Because success is rare in adult L2 acquisition, Zobl (1995) suggests that the developmental issue is more important in SLA than it is in L1 acquisition.

On the other hand, lack of success in adult acquisition has been attributed to lack of access to UG (Bley-Vroman 1989, 1990; Clahsen & Muysken 1986, 1989; Schachter 1988, 1989, 1990, 1996)⁴. However, current research holds that adult L2 grammars are not “wild” (Goodluck 1986) or “pathological” (Eubank 1995a) and that they are constrained by UG. Quintero (loc. cit.) proposes that the differences in success rates between children and adult learners is due to the L1-specific parameters interacting with learning principles.

However, Cook (1985, 1988); Gregg (1996); Thomas (1991) and White (1989a, 1996b) state that although L2 acquisition may not be as “complete” as L1 acquisition, the motivation for a logical problem in L2 acquisition is that: (1) knowledge of the TL shown by L2 learners transcends the input they are exposed to and (2) the L1 grammar alone cannot provide the knowledge base required to arrive at the L2 knowledge representation. Thus for L2 learners to arrive at such complex knowledge they must be guided by an innate language faculty similar to that available in L1 acquisition. This suggests that variability of outcome in L2 can have many different explanations unrelated to the mechanism responsible for computing the grammatical representations (Zobl 1995). As will be seen in chapter seven, this is supported by the findings of the study where variability of outcome is a result of the hypotheses formulated at the L2 initial state.

In addition, current generative SLA research assumes that L2 learners have access to UG since L2 acquisition is not language “pathology” (Eubank 1995a) although there are still factors that render L2 acquisition different from L1 acquisition. One such area of

⁴ A number of studies have shown that adult L2 learners have access to UG (Martohardjono & Gair 1993; Hilles 1986, du Plessis et al. 1987 and White 1989a, b, 1990, 1996a, b).

difference is the initial state (Schwartz & Sprouse 1994, 1996). The L2 learner is already in possession of a complete L1 system of knowledge representation which transfers to the initial state. There are also other factors like cognitive maturity, social and psychological factors which affect L2 acquisition but are not present in L1 acquisition. The similarities between L1 and L2 are that in both acquisition processes the knowledge acquired transcends the input. Thus learnability and the logical problem apply in L2 acquisition. We shall examine learnability in L2 in the sections that follow.

3.1.1 Learnability in L2A

In L1 acquisition learnability accounts for uniformity of development and outcome. In other words, uniformity is a major factor in motivating the existence of a language specific module which makes language 'learnable' when the learner is exposed to language input. Thus in L1 acquisition, learnability is explained in terms of two principles: language principles and learning principles (Pinker 1984). Language principles provide information about language structure. They include innate knowledge of syntactic categories and semantic structures (Pinker 1989b; O'Grady 1987). Learning principles are responsible for strategies required to interpret specific aspects related to TL structures which enable learners to develop more sophisticated hypotheses about the TL input resulting in development. Learning principles include mechanisms required to represent and process language input (Pinker 1984; MacWhinney 1987; O'Grady 1987; Slobin 1971). For example, the subset and the uniqueness principles are learning principles operative in L1 acquisition. The subset principle (Berwick 1985) claims that learners initially adopt a more "restrictive" grammar. This grammar is later abandoned on the basis of input (Wexler & Manzini 1987). The uniqueness principle (Berwick op.cit.; Clark 1987) requires that the learner associates a single form with a given lexical item. This enables the learner to rid the grammar of overgeneralized forms like *runed* and *eated* on the basis of sufficient positive evidence.

However, the SLA scenario is different. End-states vary considerably. Both the subset and the uniqueness principles are supposedly no longer available as learning principles (Finer &

Broselow 1986; Rutherford 1989; White 1989b). The starting points for the L1 and L2 learners are also different. The L2 learner is already in possession of a fully developed grammar in the form of the L1. It has been asserted that there are differences in the developmental sequences in ILGs of learners from different L1 backgrounds which suggests that learnability theories for L2 acquisition must take into account the possible influence the L1 exerts in L2 acquisition (Schwartz & Sprouse 1994). It has been suggested that L2 acquisition is a process in which “L1-specific language principles interact with [L2 properties] to arrive gradually at a representation of the second language” (Quintero 1992:33). The mental representation adult L2 learners construct “is coloured by the L1 source defining the possible structures” (Quintero 1992:43).

In consequence, learnability in L2 acquisition must explain, “not only the role played by the input, but also the initial state of the learner, and for an L2 learner that initial state... includes the L1 grammar” (Gregg 1996:63). How do L1 abstract properties influence (in the sense that they either facilitate or inhibit)⁵ L2 acquisition from the initial state up to ultimate attainment? We shall examine two of the learning principles applicable to L2 acquisition, i.e. overgeneralization and pre-emption.

3.1.1.1 Overgeneralization

Slobin (1971:105) defines generalisation as “avoid exceptions”. It involves the extension of a general rule to items which are not covered by that particular rule. This is often the case in the acquisition of the English irregular past tense where the regular past is extended to irregular verbs and where the plural morpheme *-s* is extended to irregular nouns leading to such forms as **goed* and **foots* (Baker 1979). This is true for both L1 and L2 acquisition. However, in the L2 acquisition of syntax if the L1 constitutes a superset grammar learners also overgeneralize by assuming that all the sentences generated in the superset are also generated by the subset grammar (Towell & Hawkins

⁵ See Schachter (1996).

1994). So how does the learner eliminate the overgeneralized structures from the grammar?

3.1.1.2 Pre-emption

The problem of overgeneralization is countered by pre-emption (Quintero 1992, Pinker 1984). Pre-emption requires that when a form is generalised to related structures without direct positive evidence from the input, this constitutes a *tentative hypothesis* which is discarded once new evidence in subsequent input is dictated. Bowerman (1987) states that learners eventually give up overgeneralized forms if they are consistently presented with positive evidence in the input data expressing the correct alternative for the generalised form. Baker (1979) argues (in the context of L1 acquisition) that because overgeneralized forms are generally “benign” they are easily eradicated from the developing grammar. The “spurious exemplar” is therefore pre-empted by its well-formed counterpart.

However, Rutherford (1989) notes that this may not necessarily be the case for all sub-systems of the grammar in L2 acquisition as adult L2 learners are known to fossilise (Selinker 1972). Fossilisation shows that not all overgeneralized structures are eradicable (Lardiere 1998). Those forms not expunged by the principle of pre-emption remain as potential sources of fossilisation. Since pre-emption is motivated by evidence in the TL, what sort of evidence leads to the pre-emption of the overgeneralized forms in L2 acquisition since L2 learners are exposed to various kinds of evidence? What triggers the acquisition of syntactic knowledge in L2 acquisition? We shall examine the role of triggering data, markedness and the nature of evidence in L2 acquisition.

3.1.1.3 Triggers and Triggering Data

Triggers are the kinds of positive evidence required to activate parameter (re)setting. Not every form present in the input acts as a trigger for parameter setting (Lightfoot 1989, 1991). Parameters are triggered by a narrowly defined set of properties referred to as triggering data (Roeper & Weissenborn 1990; Roeper & de Villiers 1992; Meisel 1994,

1995) which must be positive evidence. Different syntactic elements have been suggested as triggering data responsible for the activation of different parameter settings.

However, Gibson & Wexler (1994:409) observe that:

“... there can be no trigger for the subset value of a parameter, since by hypothesis, all data that are acceptable in the subset parameter setting are also acceptable in the superset parameter setting.”

Gibson & Wexler explain how children make use of triggering data by proposing the TLA (Triggering Learning Algorithm) which stipulates that change in the developing grammar is motivated only if the input sentence cannot be analysed on the basis of the existing grammar. Extending this to L2 acquisition and assuming the L1 final state = the L2 initial state, if the L1 grammar is a superset of the TL, then change in the ILG is not motivated because exposure to L2 input leads the learner to overgeneralize and confirm an inappropriately adopted parameter setting. White (1989a, b; 1991a, b, 1992b, c, 1993) suggests that in such cases negative evidence may be required. In order to reset the superset to the subset value learners need “to notice the *absence* of some construction in the L2” (White 1986:314). By inference, it is assumed that where the L2 parameter generates a superset of the L1, resetting is possible on the basis of positive evidence only (White 1989a, Towell & Hawkins 1994).

3.1.1.4 Markedness

There are different views in the literature related to markedness, how it influences the hypothesis formulated at the L2 initial state and the course of L2 development. From a generative perspective, markedness obtains when two settings of a parameter satisfy the subset condition (Wexler & Manzini 1987). The setting generating the subset grammar is unmarked while the setting generating the superset is marked. For example in our distinction between CP and TopP, a grammar that has both CP and Top-type C clauses is marked while one that has CP-type C clauses only is unmarked. This suggests that English sentential complementation is marked as English permits that- (CP-type C) and that-less

clauses (Top-type C). Languages like French, Spanish and Zulu which permit that-clauses are unmarked in this respect.

Markedness influences the extent the L1 influences the L2 initial state. White (1986b, 1987b) indicates that if the L1 is unmarked and the same parameter in the L2 has a marked value, the learner will initially assume the L1 unmarked value. In such cases the learner is predicted to have no difficulty in acquiring the L2 marked value. However, if the L1 is marked and the L2 is unmarked, L2 learners will initially assume that the L2 is marked. This is likely to persist and may remain a strong candidate for fossilisation. The widely held view is that for the L2 learner to move from the unmarked to the marked value is possible although changing from the marked to the unmarked is difficult and almost a near impossibility because PLD in the L2 cannot induce a restructuring or resetting since all forms in the unmarked setting are compatible with the marked setting. If the hypothesis formulated at the L2 initial state includes a marked value, this restricts the usability of the available positive evidence in the TL. It is asserted the L2 learner may require negative evidence in order to revert back to the unmarked value (White 1989a, 1986b, 1991a, b, 1992b, c, Izumi & Lakshmanan 1998).

As stated, White (1986) suggests that there may be some specific areas where negative evidence may play a role. The examples given are those where the L1 is a superset of the L2 or constitutes a marked value of the L2. However, the existence of a subset/superset relationship is, in itself, controversial. Maclaughlin (1995) and Hermon (1992) suggest that languages are not in any nested relationship and that there is no need for a subset principle or the use of negative evidence to be posited in L2 acquisition. Without the claim of a superset/subset relationship the necessity of negative evidence in L2 acquisition is not motivated.

However, assuming that there is a superset/subset relationship, Zobl (1988) argues that L2 learners can still reset L2 parameters on the basis of "subtle positive evidence." The disconfirming evidence is not directly from the structure in question. This type of evidence

is only accessible to very advanced learners. Zobl's claims are more akin to the proposal in Schwartz & Gubala-Ryzak (1992) who suggest that even in nested relationships (assuming these exist) obscure sentences could be required as input to trigger a resetting of the parameter in question. These sentences may not be related to the parameter in question. It would seem the suggestion is that negative evidence cannot be a trigger in L2 acquisition.

Summarising: if at the L2 initial state the learner transfers a marked value, positive evidence alone would not be enough to reset the parameters and the resultant ILG would lead to overgeneralization. What is clear in the discussion of markedness and the extent to which the L1 influences the L2 is that later development is determined by the hypothesis formulated at the L2 initial state. It is also this initial hypothesis which determines what sort of data will act as triggering data and how the input data is perceived in the development of IL competence. Marked forms at the initial state may require negative evidence to be pre-empted from the developing ILG. Unmarked forms can be pre-empted on the basis of positive evidence only. We shall examine the nature of the evidence available to L2 learners and its usability in the development of L2 competence.

3.1.2 The Nature of Evidence in L2A

The nature of potential triggering data in L2 acquisition is different from that in L1 acquisition. Schwartz & Gubala-Ryzak (1992) identify three types of evidence that tutored L2 learners have access to: (1) negative evidence (correction of ungrammatical TL forms, i.e. information about the impossibility of a form), (2) explicit positive evidence (descriptive statements about language) and (3) primary linguistic data (PLD). L2 learners are exposed to both positive evidence in the form of PLD and negative and explicit evidence in formal classroom instruction. Positive evidence in L2 acquisition may also be different from that in L1 acquisition. It could contain incorrect forms produced by other learners, especially if the L2 is acquired outside a native-speaking environment.

3.1.2.1 Negative Evidence

In a classroom situation L2 learners typically have access to both corrective and explicit grammar instruction. Whether this type of evidence acts as triggering data or not is a controversial issue. Researchers fall roughly into two camps: on the one hand, some argue that negative evidence does not have a role to play in the development of L2 competence (Krashen 1981, 1982, 1985; Schwartz 1986, 1988, 1993a; Schwartz & Gubala-Ryzak 1992; Beck et al. 1995). This group of researchers argue that L1 and L2 acquisition are similar: both acquisition processes require and can only use PLD as triggering data. They argue that negative evidence, implicit or explicit, cannot engage UG or any of the properties associated with the innate language faculty. The development of L2 competence is on the basis of PLD only. They argue that if negative evidence is sufficient for the development of L2 competence, then exposure to the relevant negative evidence should automatically lead to the acquisition of all grammatical structures related to a specific parameter.

On the other hand, there are also researchers who argue that negative evidence has a role to play in the development of L2 competence (Rutherford & Sharwood-Smith 1985; Pienemann & Johnston 1987; Pienemann 1984, 1985, 1989; White 1986; 1987a; Sharwood-Smith 1981, 1991, 1993; Trahey & White 1993; White et al. 1996; Izumi & Lakshmanan 1998). Two empirical arguments are advanced to challenge the view against the usability of negative evidence in the development of L2 competence. First, L2 learners who have been exposed to PLD still reflect grammatical deficiencies which, presumably, can only be eradicated by means of classroom intervention in order to bring TL-like competence (Higgs & Clifford 1982; Harley 1989; Swain 1985, 1989; Lightbown & Spada 1990; Trahey & White 1993; Trahey 1996). Second, some researchers argue that there are areas of contrast in the properties of L1 and L2 grammar which may require negative evidence for their development in L2 acquisition (White et al. 1990, White 1991a). These are the superset/subset relationship wherein the L1 constitutes a more inclusive grammar for that particular parametric value. This obscures the available positive evidence for the L2 learner. Negative evidence may be required to trigger the resetting of

UG parameter values they would not have acquired because learning principles are no longer available to them.

The argument is that in L1 acquisition parameters are set on the basis of triggering input which is relevant to only one of the properties associated with the parameter. All the other properties are then acquired without any further need for different triggering data (Lightfoot 1989). It should also be possible in L2 acquisition that the provision of negative evidence (by means of classroom intervention) necessary for one parametric property triggers other aspects related to the parameter. Thus the acquisition of the remaining parametric properties should be triggered without any further explicit instruction (White et al. 1996).

Research on the verb movement parameter (White 1991a; b; 1992b, c, Trahey & White 1993; Trahey 1996) focused on whether providing relevant explicit positive and negative evidence to only one part of the cluster of properties related to verb movement could trigger the acquisition of other properties. The cluster of properties for verb-movement are adverb placement, question formation and negative placement. Two groups of Francophone learners were used. One group was instructed on question formation while the other was exposed to explicit positive evidence. Subjects were pre-tested before exposure to the input flood and were post tested twice afterwards. In the first post test (5 weeks after the treatment) subjects behaved as if adverb placement had been reset while in the second post-test, a year later, results suggest it had not. The knowledge of adverb placement shown in the first post-test had been forgotten. Schwartz & Gubala-Ryzak (1992) suggest that these learners' competence had not been affected by the input provided.

Schwartz & Gubala-Ryzak's claims seem to be supported by proposals made in Stevick (1980). Stevick suggests that the difference between knowledge attained through the general learning module and the language specific module is its *susceptibility to forgetting*. The language specific module gives rise to knowledge which does not require any

“awareful attempt at retrieval” (Schachter 1985) and is “resistant to forgetting”⁶ (Nilsson & Baekman 1989). This suggests that the input in White’s studies had not engaged UG as the resultant knowledge was not “resistant to forgetting”.

However, recent attempts to construct a role for negative evidence in the form of help to process input correctly, so that input becomes intake suggest that this type of intervention (i.e. teaching intervention) indirectly helps UG (van Patten & Cardiero 1993; van Patten 1996). UG needs intake (or processed input) not just input. Negative evidence therefore makes the input more salient. The question is: when the input has been made salient, does it get “taken in”, i.e. is it used as triggering data? By and large, the empirical evidence presented suggests that negative evidence is not used as triggering data and thus ineffectual in the development of L2 competence. We shall examine the role played by indirect positive evidence as triggering data.

3.1.2.2 Indirect Negative Evidence

Indirect negative evidence (i.e. the absence of a form) depends on whether the learner notices its absence in the TL and associates it with ungrammaticality. White (1986) suggests that L2 learners may notice the absence of a form in the TL input which then forces them to change the parameter values of their current ILG. Valian (1988, 1990) questions the role of indirect negative evidence because there are an infinite number of sentences that learners do not hear although these are grammatical in the TL. Thus, if absence of a form is associated with ungrammaticality, learners can make incorrect assumptions about the L2 because there are an infinite number of sentences that learners do not hear in the input. Learners could also conclude that the grammatical sentences which they have not heard before are ungrammatical. In addition, if learners were to use indirect negative evidence, this would increase their processing load because they have to attend to those sentences they hear in the input and those they do not.

⁶ See Izumi & Lakshmanan (1998) on claims about whether no long-term retention means no competence.

In summarising, studies on adverb placement suggest that parameter resetting may not take place on the basis of explicit negative evidence. The usability of explicit corrective evidence in the process of L2 grammar-building is disputed. The empirical evidence presented suggests that negative evidence cannot provide L2 learners with the kind of abstract knowledge represented by UG. In the next section we shall examine the role of positive evidence by focusing on whether its availability necessarily guarantees that it will be 'taken in'.

3.1.2.2 Positive Evidence

In generative approaches to language acquisition, the acquisition of any aspect of language related to UG is triggered by the input in the target language. White (1985a, b; 1988b; 1989b) and Schwartz & Sprouse (1994, 1996) suggest that L2 input is initially analysed in terms of L1 parameter values. At the L2 initial state L2 input is represented and processed in terms of those hypotheses generated on the basis that the L2 is exactly like the L1. However, certain properties of the FCs instantiated in the L1 may have been set in a particular way which might not be exactly what is required in the L2. For example, a FC may have strong features under a particular functional head in the L1 while in the L2 the features under that same functional head may be weak. The L2 learner has to revise/reset the strength parameters in the L1 into their L2 values. Given that language acquisition is contingent upon the availability of positive evidence and that the initial hypothesis formulated by L2 learners includes the wholesale importation of the L1 syntactic geometry, is the type of PLD which acts as triggering data in L1 acquisition adequate for the L2 learner to recover from L1 transfer effects?

If the initial hypothesis involves a marked form this dictates the kind of PLD required to pre-empt the marked form from the developing ILG. The type of evidence needed will be very subtle and only available to learners in advanced L2 stages. This suggests that there are two potential knowledge representations at ultimate attainment. If advanced learners access subtle positive evidence, the knowledge representation at ultimate attainment will be complete but if they do not it may be incomplete.

Vainikka & Young-Scholten (1996a) also indicate that elements used as triggers in L2 acquisition are different from those required in L1 acquisition to trigger the acquisition of the same parameter. They state that while in L1 acquisition inflectional morphemes/affixes serve as triggers, free morphemes typically act as triggers in L2 acquisition. They conclude that this difference in the type of triggering data used accounts for the differences in L1 and L2 acquisition and in the observed differences in the developmental stages.

In addition, Sorace (1993) notes that the parameter setting of the L1 affects the manner in which learners “take in” positive evidence. In a study of the acquisition of some syntactic and semantic properties of unaccusativity in Italian, Sorace found that while both French and English subjects noticed the positive evidence on the relative lexical-semantic markedness of some unaccusative verbs, PLD of optional and obligatory auxiliary change was analysed differently by the two groups of learners. The French learners “noticed” the PLD and restructured their Italian ILG but the English native speakers did not. Sorace’s study indicates that although positive evidence may be available in the input, it may not be used to restructure the ILG.

Schwartz & Sprouse (1994) suggest that L2 acquisition is “failure-driven”⁷. Although they maintain that the L1 final state constitutes the L2 initial state, they also acknowledge that L2 learners may be unable to reset certain parameters due to the obscurity or rarity of certain types of positive evidence. The current ILG is forced to change only if the input data is not parsable on the basis of the grammar at hand. This indicates that the L2 learner may remain in a non-target state (Frank & Kapur 1996) wherein L1 values are maintained. One such area where PLD is likely to be obscure is in the case of an L1 with a marked value while the L2 requires an unmarked setting. As discussed (see 3.1.1.4), if the L1 has a marked value and the L2 has an unmarked one, then the learner is not likely to perceive the need to revise or change the L1 value because the L1 values, being over-inclusive,

⁷ See Bowerman (1987) for L1 acquisition.

allow the parsing of the L2 input. If the L1 is a subset of the L2, the type of positive evidence required as triggering data is also not straightforward. The learner may be exposed to frequently occurring forms indicating the superset value, but frequency of occurrence does not guarantee that the input will trigger parameter (re)setting (Meisel 1995). The input may constitute ambiguous evidence (Truscott & Wexler 1989; Weissenborn 1992; Clark & Roberts 1993). For example, a native speaker of English learning Zulu topicalization is confronted by ambiguous evidence in the form of movement and non-movement topics (see example 21 in 2.7). English topicalization is strictly by XP movement. If the L1 final state constitutes the L2 initial state, an English-speaking L2 learner of Zulu may remain in a non-target state because although positive evidence is available, it does not exclusively point to the required setting in the TL (i.e. whether [+/- movement] as both settings are permitted in Zulu.

By and large, what runs through these proposals is that it is what happens at the L2 initial state which determines further development including the type of PLD that is used as triggering data (Schwartz & Sprouse 1996). Given that the L2 learner initially uses L1 values in accessing L2 input, the inability of L2 learners to utilise PLD in L2 acquisition depends, to a very large extent, on the initial hypothesis formulated at the initial state. The inability to perceive the relevance of and utilise the available PLD is determined by the initial hypotheses formulated at the initial state, i.e. the hypothesis that the L1 is = L2. It is this influence of the L1 which affects the ability to incorporate PLD in L2 acquisition. Thus in L2 acquisition, it is the hypothesis formulated at the initial state that determines how input is to be analysed (Schwartz & Sprouse 1996).

3.2 Status of FCs in L2A

The debate on the development of FCs focuses on the extent to which L1-specified FCs are available to L2 learners at the onset of L2 acquisition through UG (Epstein et al. 1993a, b, c; 1996), through transfer (Eubank 1994, 1996; Schwartz & Sprouse 1994) or whether L2 learners gradually built up functional projections like L1 learners (Vainikka &

Young-Scholten 1994, 1996a, 1996b; Kaplan 1993). What is the status of FCs at the L2 initial state?

3.2.1 In Early L2 Grammars

The availability of FCs at the initial state is a controversial issue. In the earlier UG-debate, although not focusing on the initial state, some predictions on the availability of FCs in developing IL grammars were made. More recently, direct proposals have been made about the extent to which FCs are represented in L2 initial state systems. The limits of the debate are defined in the Minimal Trees Hypothesis (MTH) (Vainikka & Young-Scholten 1994, 1996a, 1996b) and the Full Transfer and Full Access (FT/FA) hypothesis (Schwartz & Sprouse 1994, 1996), with the Valueless Features Hypothesis (VFH) (Eubank 1994, 1995b, 1996) taking a middle position. The MTH proposes that FCs are missing at the initial state. The FT/FA argues that they are represented in initial state systems and that the absence of functional elements is due to “morphological avoidance”. The VFH claims that although FCs are represented, their strength values are initially underspecified.

3.2.1.1 Theories of L2 Initial State

In recent SLA research there is disagreement on the extent to which FCs are represented at the L2 initial state. There is agreement, however, on the extent to which lexical projections are available in early L2 knowledge. All researchers concur that L1-like lexical categories constitute the L2 initial state. Since there are differences regarding the availability of FCs in the very early stages of L2 development, the three views make different predictions on the nature of the initial state grammar and on subsequent stages of IL development. There are also common underlying assumptions in the three views. The three hypotheses propose that IL grammars are constrained by UG and that adult L2 learners have full access to UG. This is spelt out explicitly in the second half of the Full Transfer and Full Access hypothesis (FT/FA).

The three hypotheses are based on two developmental views: the strong and weak continuity hypotheses. Schwartz & Sprouse’s FT/FA is a strong continuity approach. The

argument is that FCs are part of UG and therefore underlyingly represented in the initial state of the L2 grammar. Missing inflection at the level of surface morphology is attributed to a lack of L2 vocabulary needed to express the existing structural knowledge. The Minimal Trees Hypothesis (MTH) and the Valueless Features Hypothesis (VFH) are weak continuity approaches. The weak continuity theorists argue that the potential to acquire FCs exists at the initial state. This potential is not realised until the learner becomes aware of triggering data.

3.2.1.1.1 Missing FCs: Minimal Trees

In the Minimal Trees Hypothesis (MTH) L1 lexical projections are available from the beginning of L2 acquisition but functional phrase-structural projections are acquired gradually on the basis of X-bar theory interacting with lexical learning. The MTH proposes that functional projections do not transfer hence these are not available at the L2 initial state. The initial clausal projection is a “bare VP” with the subject in Spec-VP. Subsequent development is characterised by the creation or gradual emergence of the relevant functional projections which initially appear without the strong or weak notation of the respective features. The development of functional projections either involves non-lexical information in the form of word order or is triggered by free functional morphemes such as modals, complementizers or auxiliaries in the input (cf. Zobl & Liceras 1994).

Vainikka & Young-Scholten (1994, 1996a, 1996b) take the absence of functional elements associated with FCs (e.g. complementizers associated with COMP) as evidence of lack of FCs in the learner’s grammar. The emergence of functional elements in their subjects’ production data is taken as evidence of the development of functional projections. IL development is viewed as a “progressive addition of functional structure” (Schwartz 1997). The evidence used for the initial absence and the gradual emergence of FCs is similar to that used in the “deficit hypotheses” in L1 studies (see 2.5.1.1). The MTH relies on overt production of functional elements such as modals, complementizers, verbal agreement affixes and auxiliaries as evidence for the projection of FCs. The presence of lexical complementizers at the level of surface morphology is taken as

evidence of the presence of a CP projection. Its absence is also taken as evidence of the absence of a CP projection in the early grammar. Thus in the MTH the course of syntactic and morphological development is interdependent and the mapping between the two modules is direct. In consequence, once FCs are acquired “their existence is reflected in the production” (Vainikka & Young-Scholten 1994:291) because the feature-to-form mapping has been successfully acquired (cf. Smith & Tsimpli 1995, Lardiere 1998).

Evidence for the MTH comes from both longitudinal and cross-sectional production data from adult L2 learners of German whose first languages were Korean, Turkish, Spanish and Italian. A variety of elicitation tasks is used to compile data on spoken language. The 16 subjects were divided into three developmental groups on the basis of correct use of a number of morphosyntactic features in 60% obligatory contexts. Vainikka & Young-Scholten (VY) posit a three stage development for the ILG.

The L2 initial state consists of a “bare VP” characterised by the absence of morphological and syntactic correlates of functional projections such as verb-raising, auxiliaries and modals, an agreement paradigm, complementizers and wh-movement. VY conclude that “no functional projections are transferred---neither initially nor subsequently” (VY 1996a:15). The second stage, the FP (functional projection) stage, is characterised by optional agreement and verb-raising which is attributed to the underspecification of features of the functional projection to the left of VP. The third stage is a *head initial* AgrP which has a full agreement paradigm, obligatory subjects and verb-raising although it is not TL-like. It is head-initial whereas in German AgrP is head-final. The AgrP has not been transferred from the subjects’ L1. Korean and Turkish are head-final but learners produced a head initial AgrP like the Italian and Spanish L2 learners of German. This functional projection cannot be attributed to the effects of the L1 on the L2. The FP and AgrP stages resemble stages that have been identified for German L1 in Clahsen (1990), Clahsen & Penke (1992) and Gawlitzek et al. (1992). The MTH model suggests that there are similarities between the development of FCs in L1 and in L2 acquisition.

However, Schwartz & Sprouse (1996) question the proposals made by the MTH on grounds that if the L2 initial state only consists of lexical projections, this does not account for how argument structure is represented (since there is no DP) and whether subcategorization for functional projections and movement from a lexical head to a functional projection is transferred even if functional projections themselves do not transfer. MTH theorists argue that argument structure is represented on the basis of thematic roles. In addition, although the projection of a DP is essential for case assignment, L2 learners initially use abstract case as a mechanism for case assignment (Vainikka 1993/94). Thus DPs need not be available at the initial state because case can be assigned abstractly. In fact, Vainikka & Maling (1995) suggest that case is assigned to syntactic positions rather than to arguments. Hence the presence of a DP is not necessary for the realisation of case.

The MTH claims that in early L2 acquisition all clausal projections are treated as VPs because it is only lexical projections that transfer into the L2 initial state. The distinction between NP/DP and propositional complements such as the CP reduces to a distinction between NP and VP. The MTH maintains that any errors involving subcategorization indicate access to unmarked UG structures. For example, the wrong subcategorization frame of the verb “*want*”, wherein a learner produces “*I want that he comes*” does not indicate transfer effects. It reflects access to the unmarked UG clausal complement introduced by the unmarked complementizer *that*. VY cite Epstein’s et al. (1996) findings from the acquisition of English by Spanish and French speakers as evidence for the access to UG scenario. Learners interpreted subject control verbs as object control ones (d’Anglejan & Tucker 1975, Cooper et al. 1979). They preferred infinitival complements of control verbs (which is unmarked) despite the fact that the L1 pattern would have been similar to English (Flynn et al. 1991). This pattern of acquisition has been attested in L1 acquisition of control verbs (Sherman & Lust 1993). This shows that the acquisition of FCs is not subject to transfer effects. The MTH maintains that a counter-example would be an instance of a marked clausal complement in UG that does not occur in the TL, but occurs in the learner’s L1 which is found in the IL grammar.

The lack of embedded clauses with bare VPs is explained in terms of Grimshaw's (1993, 1994) extended VP projection. At the initial state, the learner identifies a particular predicate as having an extended VP projection without the exact specification of the levels of extension. The VP would have been transferred from the L1 but the superstructure above it would have to be determined on the basis of the structure-building mechanism during L2 acquisition (VY 1996a:33). The MTH is grounded on Grimshaw's (1993) extended projection principle. In Grimshaw the VP is the basis of an extended projection because IP and CP cannot be projected without a VP although a VP need not be projected right up to CP. From a theoretical syntactic point of view, the MTH's claim is that FCs cannot be projected unless and until they have phonetic content (a view held in Grimshaw's minimal projection). In Speas' (1993) economy of projection, this would mean that "s-structure trees are minimal, well-formed projections of the lexical items they contain" (cit. in VY 1996a:35).

The MTH further argues against the transfer of all syntactic movement. All movement develops gradually in L2 acquisition as it does in L1 acquisition (Weissenborn 1990). Schwartz & Sprouse (1996) argue against the nontransfer of syntactic movement. They provide empirical evidence from the acquisition of English by French speakers. French speakers produce sentences with verb-raising __ a phenomenon present in their L1 but not in English. Since it is in French rather than in English that the verb raises to a functional head the knowledge of verb-raising must have been transferred from the L1. It is feature strength that transfers from the L1 to the L2 indicating that there are transfer effects associated with functional projections.

However, VY argue that the verb-raising data by French speakers can be explained in their bare VP analysis. Because in children affixes appear before free morphemes while for adults the reverse scenario is true, an adult L2 learner of English would not initially posit a verb-raising analysis because the inflectional paradigm in English is weak. Bound morphemes would not be salient in the input. Evidence for the presence or absence of verb-raising in the agreement paradigm would not be obtainable from the input. Learners would be forced into focusing on free morphemes like auxiliary verbs and modal forms.

The learner would posit verb-raising on the basis of L2 evidence (since English verbs are raised to C through Subject-Aux-Inversion (SAI)) irrespective of the situation in the L1. The French learners impose a verb-raising analysis on the basis of SAI rather than on L1 feature strength because knowledge of FCs does not transfer. The L2 learner acquires knowledge of FCs on the basis of L2 evidence only.

In summarising, the MTH predicts an initial state consisting of lexical projections transferred from the L1. Subsequent development consists of an implicational acquisition of FCs. An early underspecified functional projection (FP) emerges first and is subsequently replaced by a fully specified IP. This IP stage is followed by a CP. The MTH predicts that there will never be transfer effects associated with functional projections in IL grammars. Crucially, the MTH predicts that beginner learners will have indeterminate intuitions on syntactic correlates of FCs. The indeterminacy predicted at the initial state is a result of lack of knowledge of functional structure as learners cannot have intuitions about language structures that are not represented in their current IL grammar (Schachter et al 1976, Sorace 1988, 1990). Since indeterminacy is “indefiniteness of status in the speakers grammatical competence” (Sorace 1996a:381), beginner learners cannot “distinguish acceptable from unacceptable sentences” (Sorace op.cit.) involving functional structure. The initial state grammar will be characterised by optionality in those structures that implicate FCs. When L2 learners finally acquire the L2-like functional structure, their intuitions will be determinate and consistent with what is permitted in the TL grammar.

Since the MTH proposes that initial L2 grammars lack functional projections, then the difference between the initial IL grammar and mature state grammars is a structural one — it is strictly a syntactic difference. Initial L2 grammars have missing syntactic positions or an incomplete syntactic tree as opposed to a fully fledged syntactic tree characteristic of mature state grammars.

Given the proposals made in the MTH, there are four types of evidence that can be used as counter-evidence. First, if L2 initial state grammars lack FCs, they should be comparable to the grammars of Broca’s aphasics. Broca’s aphasics lack FCs hence their

use of morphological inflection is *random and inconsistent* (Grodzinsky 1990). Early L2 learners should exhibit a random use of morphological inflection. As discussed in 2.5.1.2, there is a difference between aphasic grammars and child L2 initial systems. Inflection is not used randomly in initial state systems because there are FCs which check off its use.

Second, evidence that there are transfer effects associated with functional projections in the earliest stages of development is crucial. Thirdly, the MTH could be falsified by evidence from an IL grammar that exhibits syntactic phenomena that imply functional structure in the absence of surface morpho-syntactic elements associated with the respective functional heads and thus suggesting that the feature-to-form mapping is indirect in L2 acquisition. Fourth, evidence of transfer of a marked complement structure in the L1 but not available in the L2 would be counter-evidence for an MTH account.

There is evidence that early L2 learners initially fall back on their L1 functional structure (Gavruseva & Lardiere 1996; Lakshmanan & Selinker 1994; Grondin & White 1995; Schwartz 1998; Schwartz & Sprouse 1994, 1996; White 1996c; Haznedar 1997). Haznedar (1997), in a study of the acquisition of English by a child Turkish L1 speaker, provides evidence of Neg-final placement in L2 English. Neg-final placement is characteristics of Turkish and not English. There is also evidence from Lakshmanan & Selinker (1994) and Lakshmanan (1993/94) on the transfer of various aspects related functional structure. But more damaging to the MTH is evidence from Gavruseva & Lardiere (1996) on the child acquisition of English by Dasha, a Russian native speaker.

The implicational acquisition sequence predicted in the MTH is not evident in Dasha's IL grammar. Dasha's production of embedded clauses is well above the criterial level which suggests that there is a CP projection in her grammar. However, Dasha's use of agreement marking in obligatory contexts is below 40%. Her suppliance of modals and auxiliaries remains well below 60%. In an MTH model this shows that IP is not yet projected. Evidence from Dasha's grammar is damaging to the structure-building mechanism proposed in the MTH. The gradual development account predicts that CP cannot be projected in the grammar before the projection of lower level functional projections like IP

or FP. Yet in Dasha's grammar a CP is fully projected before the criterial *overt suppliance* of agreement, tense, auxiliaries and modals all of which are projections of IP. The problem posed for the MTH account is that either the gradual-development claim or the type of evidence used for the projection of functional structure, i.e. overt suppliance of surface lexical functional elements be abandoned. From a purely theoretical linguistic point of view, it is not possible for any grammar to project a full clause, that is, a CP without any lower level projections like an IP. Grimshaw states that "projection of a higher level entails the presence of every lower level projection that contributes functional information" (1994:82).

Given Grimshaw's proposals, Dasha's CP utterances must include IP. The particular lexical elements or morphological inflections are underspecified. The availability of an IP projection is confirmed by Dasha's knowledge of an abstract case-assigning feature in IP⁸. Gavrusseva & Lardiere argue that this case-assigning feature has been transferred from the L1. Dasha's initial representation of English includes the knowledge that nominative case is assigned by elements in the IP. Thus IP is present in Dasha's ILG despite the fact that there is no overt evidence of functional morphology associated with finite IP. Gavrusseva & Lardiere propose that Dasha has a full functional tree "despite the lack of overt lexical elements associated with these categories" (1996:235). It is assumed that the knowledge of functional structure in Dasha's early grammar is drawn from her L1.

The importance of this study is that it draws attention to the methodological problem of relying on *overt production* as a criterion for the acquisition or availability of functional structure (Lardiere 1998). If this criterion were to be used, it would underestimate Dasha's competence. Although she does not show a criterial level of overt production of IP level functional elements, her grammar has an IP and a CP. Hence the study poses problems for the gradual development sequence proposed in the MTH. It raises questions about the *reliability* of the criteria used for determining the presence of functional

⁸ This dovetails with Erdem's utterances in Haznedar (1997) and Patty's utterances in Lardiere (1998). The claim is that Erdem has a mechanism of case assignment transferred from his L1 Turkish. Similarly, Patty's (an adult Chinese learner of English) has a CP although her suppliance of verbal morphology is almost non-existent. However, Patty has a mechanism of nominative case assignment suggesting the presence of an IP.

projections in early L2 grammars. It also raises theoretical questions about whether there is any correspondence between syntactic representations and morphophonological realisation and whether the mapping between morphology and syntax is direct or dissociated in L2 acquisition (Lardiere 1998). We examine some of the problematic areas of the MTH below.

3.2.1.1.1.1 Methodological and Theoretical Problems

The methodological problems relate to the kind of data used to argue for an initial absence of FCs and to make inferences about the knowledge representation at the initial state. Theoretical issues relate mainly to the “criteria” used as a diagnostic for the absence of functional projections. Lack of phonetic content cannot reliably indicate that FCs are not projected in the grammar as there is evidence that syntactic structure exists before the phonetic realisation of the relevant functional heads (Lardiere 1998).

3.2.1.1.1.1.1 Is late use the Same as Late Acquisition?

The MTH takes absence of lexical functional elements in production as evidence that IL grammars lack FCs. The same type of data is used to predict the implicational developmental stages. The problem with production data is that while learners’ utterances provide direct evidence of what is in the ILG, they do not provide direct evidence of what is not generated by the ILG (Arthur 1980). If a learner does not utter certain forms, it does not exclude the possibility that these are some of the forms the learner might have uttered. Thus Cook (1993) states that production data provides a very “pale shadow of competence” (332) because early learners often “under-perform” their competence.

L2 acquirers also go through a “silent period” (White 1996a:8) wherein there is no production at the level of performance although learners have mental representations for the very same structures they do not produce. In consequence, late use (in production) is not a reflection of late acquisition. Usage in general is not an indication of the existence or lack of knowledge or acquisition. A structure may exist at the level of competence but the

learner may not use it (Epstein et al. in press, Meisel et al. 1981; Grondin & White 1995; Valian 1991). This suggests that late use may not necessarily indicate late acquisition.

3.2.1.1.1.2 How Much Usage is = Acquisition?

A related issue is the number of occurrences that could be considered sufficient for successful acquisition. In the MTH it is assumed that 60% of *correct* usage in production is a reflection of acquisition of FCs. Brown (1973) puts the figure at 90% production in obligatory contexts for a structure to be considered acquired. Since we have established that usage *per se* does not reflect knowledge or acquisition, it does not make much difference whether the structure is produced 90%, 60% or 0% of the time as the structure may exist during the silent period resulting in 0% usage while learners have a mental representation for it. This could explain the low production of IP-level FCs in Dasha and Patty's grammar.

3.2.1.1.1.3 Is Correct Usage the Same as Accuracy in Production?

Does a form have to be accurately produced in order for it to be considered acquired? In other words, is correct 'overt' manifestation equivalent to acquisition? White (1996a) states that the presence of "incorrect" (in terms of what is required in the TL) inflections reflects the existence of a FC in the grammar (see Lardiere & Schwartz 1994; Grondin & White 1995; Epstein et al. 1996). While the MTH acknowledges that inaccuracy does not reflect lack of the specific projection (as seen by the conclusion that their subjects had AgrP despite the fact that this AgrP had an incorrect headedness in terms of what was required by the TL), an interesting point that arises is that these inaccurately produced forms are overt ones. What about null FCs which do not have any "*overt*" manifestation?

Let us take a hypothetical case of a native speaker of Chichewa learning Zulu as an L2. Chichewa ideophonic sentences instantiate null tense (Kulemeka 1993, 1997), while Zulu has an overt manifestation of tense. The conundrum the MTH raises is: if at the early stages of IL development, a Chichewa L2 learner of Zulu produced sentences lacking overt tense, would it be legitimate to conclude that (1) the Chichewa-Zulu IL grammar

lacks the functional projection TP since there is no *overt* manifestation of tense in the grammar and that (2) FCs do not transfer and lastly, that (3) when FCs emerge they are in their TL form?

While the hypothetical conclusions (1) and (2) would be grossly unconvincing, (3) would be, *prima facie*, convincing although weakly supported because arguably, during the phase when the Chichewa-Zulu IL exhibits null tense this could be attributed to the L1 and when the Zulu form appears, it could be argued that the IL grammar had undergone restructuring. This poses problems regarding the extent to which the MTH predicts the nature of initial L2 grammars. One question that stands out from the hypothetical example is: when is a FC projected? Does projection of a FC occur only when there is phonetic content in the functional head? If so, does it mean that Chichewa does not have tense?

3.2.1.1.1.1.4 Is no phonetic Content = FC not Projected?

MTH theorists argue that “until functional elements have phonetic content, they are not projected” (VY 1996a:35). As discussed, this is a problematic claim and we need to “unpack” it in order to see why it does not hold. First, MTH theorists suggest that “phonetically null” functional elements are not represented at the level of syntactic computation since the FC is not projected. Two issues arise, does this “phonetic nullness” refer to what happens in the TL, i.e., the TL requires a phonetically filled functional head, but the IL grammar has a functional element without any phonetic content (as evidenced, for instance, by subordination without lexical complementizers) and thus, by the MTH thesis the TL-like functional element has not been projected in the IL grammar? On the other hand, one wonders whether this “phonetic nullness” is with reference to natural languages in general, i.e., does it mean that in natural language grammars in general, a FC is not projected until it has phonetic content?

If lack of phonetic content is used in the former sense, i.e. with respect to what is required by the TL grammar with the assumption that since the FC does not have phonetic content in the IL grammar then this FC is “missing”, or not projected as it does not match with

what is required in the TL, then the question that still remains unanswered is, what is the nature of IL grammars with respect to the availability of FCs irrespective of what happens in the TL grammar (Kaplan & Selinker 1997:73)?

Regarding the second question, it would seem the MTH denies the IL grammar the status of a natural language. Functional elements without phonetic content, (i.e. instances where the phonological exponent of the functional morpheme in the syntactic terminal node surfaces as a null element although the functional projection is present at the level of mental representation) are a feature of natural language grammars⁹. If mature state grammars like Chichewa with null tense in ideophonic sentences (Kulemeka 1993, 1997), Swedish with instances of null determiners (Bohnacker 1995) and Capervedian Creole with null determiners (Baptista 1997, Luchesi 1993) do project phonetically null FCs why is the IL grammar not allowed to project null FCs like other natural language grammars? If other natural languages do project null FCs, it is plausible for a UG-constrained IL grammar to project null FCs irrespective of what is required in the L2, or for that matter, what happens in the L1.

In summarising; we have raised problems regarding both methodological and theoretical issues in the MTH thesis. We have argued that production data gives a blurred view of competence especially when dealing with low-level learners. The validity of equating usage with acquisition has been questioned. The emphasis has been that it is an underestimation of L2 learners' competence to assume that usage is an indication of knowledge or acquisition. The possible source of the absence of functional elements has been attributed to gaps in the TL lexical repertoire or the mapping to the PF component rather than to a representational deficit (cf. Lardiere 1998). The argument put forward has been that these functional elements are "phonetically missing" (Juffs 1996a) as result of "morphological avoidance" (Borer & Rohrbacher 1997). The functional elements are present at the level of mental representation. The issue of phonetically null elements

⁹ In 2.1.2.1 we established that FCs allow phonologically empty heads because this is one of the inherent properties that distinguish them from substantives.

inevitably led to the theoretical question of whether there is any justification in assuming that FCs are projected only if they have phonetic content. The MTH was found wanting in that it does not treat the IL as a natural language because other natural languages like Chichewa and Capoverdian Creole have FCs without phonetic content.

To recapitulate; the available empirical evidence suggests that L1 lexical and functional categories are present in early ILGs. A critical evaluation of the MTH shows that initial state grammars are not characterised by missing FCs. We will next examine another initial state view: the Valueless Features Hypothesis. We pay attention to the predictions it makes in terms of the status of FCs in initial state systems and how these are acquired at subsequent stages.

3.2.1.1.2 Incomplete Functional Structure: Valueless Features

The Valueless Features Hypothesis (VFH) takes Weinreich's (1953) view that morphological affixes do not transfer. Since it is on the basis of the morphology that strength of inflection is determined, then by extension, the VFH assumes that strength of inflection does not transfer. The VFH's concept of valueless features is anchored on Rohrbacher's (1994) proposals on the correlation between morphological feature strength and inflectional paradigms in Standard Germanic languages. The values of these features are unspecified and it is their 'inertness' at the initial state that differentiates the L2 initial grammar from natural languages. Initial L2 systems are unnatural because they allow unspecified features. Unspecified features lead to syntactic optionality in the very early stages of L2 development. This renders the early grammar unnatural because there is "no possible grammar in which an element moves optionally; it must move obligatorily, or not at all" (Henry 1997b:63)¹⁰.

The L2 initial mental representation has underspecified morphological features because "transfer obliterates the values associated with features located under functional heads"

¹⁰ However, Pettiward (1997) accommodates optionality by arguing that optionality derives from the timing of movement during a derivation.

(Eubank 1996:73). Eubank's empirical evidence comes from verb-raising in the IL data of native speakers of French learning English as an L2 and a re-analysis of Wode's (1981) German-English data. In the French-English data, Eubank focuses on three aspects related to verb-raising, i.e. (1) the placement of sentence-internal adverbs, (2) the placement of verbs in interrogatives and (3) the placement of the verb in relation to the negator. In the French-English data, Eubank hypothesises that since strength parameters do not transfer, the L2 initial representation of these learners will not differentiate between the two placements of the verb, i.e. subject-verb-adverb-object (**SVAO**) and subject-adverb-verb-object (**SAVO**).

Eubank relies on White's (1991, 1992) data by Francophone children learning English. In the early stages subjects allow both **SVAO** and **SAVO** word orders. Eubank concludes that verb-raising in early French-English IL does not resemble that in the learner's L1. The French L2 learners of English were neither using their strong L1 features in Agr nor the weak Agr features in English. If they were using the strong L1 features the **SVAO** word order would have been obligatory. French has strong features in its verbal morphology and these have not been transferred. Similarly, if they were using the weak Agr features in English, then a non-verb-raising word order **SAVO** would have been obligatory. Because the English weak features have not been acquired, the initial state grammar has "inert features". The optionality evidenced in the use of the **SVAO** and **SAVO** word orders is attributed to "the absence of a regulatory mechanism" (Eubank 1993/94:196).

Eubank also re-analyses the spontaneous L2 longitudinal data of three Francophone children acquiring English reported in Gerbault (1978) and Tiphine (1983). He focuses on the absence of the negator following thematic verbs. This is in contrast with their L1 French where the negator *pas* always follows the finite verb. The absence of the negator after the finite verb is attributed to the inert feature in the functional head C. In the very early stages of development, there is no evidence of Subject-Aux-Inversion (SAI) in wh-questions because the early ILG does not have V-to-C movement. There are no occurrences of the word order sequence thematic verb-*no/t*. In negation contexts,

negation forms like *no/t* and *don't* appear before the thematic verb. This is analysed as verb-movement to Agr. Stage 2 is characterised by the productive use of both types of questions (i.e. yes/no and wh-questions), the disappearance of the *no/t*-verb order and the productive use of auxiliaries with *n't* succeeded by a thematic verb.

Eubank associates the acquisition of English verb inflection with the acquisition of auxiliary negation. Once the acquisition of the overt morphology is complete, the syntactic correlate (i.e. verb-raising) is triggered. Thus a causal relationship exists between the acquisition of verbal morphology and feature specification of Agr. Eubank (1993/94) therefore identifies three IL developmental stages. Development in L2 acquisition consists of an initial state of morphological underspecification followed by a stage of morphological specification and the resetting of the L2 parameter value.

Eubank concludes that the IL data on sentence medial adverbs and negation cannot be accounted for in both the MTH and the FT/FA. The FT/FA would have predicted an early IL grammar characterised by the French **SVAO** word order only. It cannot account for the optionality evident in the data. The MTH, on the other hand, would not be able to handle such data as functional projections are missing at the initial state. Eubank concludes that the evidence on optionality of short verb-movement and the absence of long movement is consistent with an analysis that argues for weak transfer. He suggests that at the earliest stages, verb-raising in the IL grammar is not like French where obligatory raising of the finite verb is required. Eubank attributes this to the underspecification of the strength values of features of the functional head responsible for verb-raising i.e. the strong value of French Agr has not transferred. This is in sharp contrast with Hawkins et al's (1993) account of the acquisition of verb-movement by Anglophone learners of French. They argue for an initial transfer of L1 features, followed by a misanalysis of the input and the resetting of the L2 parameter setting.

Eubank's account has been called to question on issues related to (1) the motivation for the VFH, (2) the optionality of the **SVAO** and **SAVO** order observed in the placement of

internal adverbs data and (3) his analysis of the French-English IL data on the placement of verbs in relation to the negator. Schwartz & Sprouse (1996) question the association of feature strength with inflectional paradigms on the basis of evidence from first language acquisition (Lardiere 1998). Verrips & Weissenborn (1992) have shown that the development of verb-movement in German and French precedes the development of the relevant morphological agreement paradigm. L1 learners in the Verrips & Weissenborn study reflect an adult-like verb placement pattern of verb-raising to Agr before their acquisition of the relevant morphological agreement. This suggests that the strength of features associated with functional heads is not a function of the inflectional paradigm as expressed in Rohrbacher and adopted in Eubank. If there is no correspondence between strength of inflection and inflectional paradigms in L1 acquisition, there is no justification for this link in adult L2 acquisition. Thus, according to Schwartz & Sprouse, the VFH is not motivated.

The assumption is that even if Rohrbacher's account were correct, there would be no justification for the non-transfer of feature strength to the L2 initial state. Once feature strength has been determined during L1 acquisition, it becomes an "abstract syntactic property of the grammar" (Schwartz & Sprouse op.cit). It does not need to be re-determined in L2 acquisition by further consulting the inflectional paradigms. There is no reason why it should not filter into the L2 initial representation irrespective of the non-transfer of inflectional morphology.

Eubank's optionality account has also been questioned on grounds that the subjects were not true beginners (Schwartz & Sprouse 1994). The observed optionality is attributed to grammar competition in that the knowledge representation from the L1 is now in competition with the newly acquired L2. It could also have been a result of a misanalysis of the L2 input. Schwartz & Sprouse suggest that French learners of English misanalyse the input by assuming that in English adverbs can be generated higher in the syntactic tree. Initially French L2 learners of English use their L1 adverb position but after restructuring, they posit an additional adverb position adjoined to the TP higher than VP but lower than

AgrP. The SAVO order is a result of learners using adjunction to TP as the base position for the adverb whereas the SVAO results from the base generation of an adverb adjoined to VP. This apparent optionality is a direct consequence of a hybrid grammar based in part, on the L1 and in part, on the misanalysis of the L2 input. Input in the form of sentences with medial adverbs proves insufficient for the de-learning of short verb movement making this particular structure a prime candidate for fossilisation. The source of this fossilisation is the L2 initial state.

The variation observed in question formation is inherent in the syntax of question-formation in French grammar. For example, “*Vous allez au theatre* vs. *Allez vous au theatre*” show that I-to-C movement is optional in French (Henry 1997b:65). Thus in non-echo constituent questions in French, wh-movement is not required. Even if wh-movement occurs it does not require verb-movement to C. Non-echo yes/no questions in French involve rising intonation and not SAI. Movement in question-formation in French is optional. The patterns found in the French IL data cannot be convincingly attributed to the non-transfer of feature strength. Schwartz & Sprouse maintain that the problem with Eubank’s analysis is a methodological one: that of assigning a TL syntactic analysis to a superficially similar IL surface pattern, i.e. it instantiates a comparative fallacy (Bley-Vroman 1983) according to Schwartz & Sprouse.

Although Eubank’s account is very attractive in that it captures the characteristic features of early IL grammars (Prévost 1997), there are three aspects of the VFH thesis that are highly debatable; namely (1) the loci of feature strength, (2) the interpretation of early L2 utterances and (3) evidence of optionality in very advanced L2 learners. Regarding (1), the problem the VFH raises is that there is variation across languages on the location of features. For instance, in Chinese Agr features have been claimed to be located in C rather than in INFL (Ersnt 1994)¹¹. If feature strength does not transfer, then the task of an L2 learner is twofold. First, the learner has to identify the head in the L2 to which these

¹¹ There is also disagreement regarding the projection of Agr in Chinese. Speas (1993) argues that Agr is not projected in Chinese.

features are located (Robertson & Sorace in press). Secondly, the learner has to determine the strength of these features. The question that the VFH raises is, if feature strength does not transfer, does it also follow that the loci of these features does not transfer? From the proposals made in the VFH, this aspect is not stated.

The persistence of optionality in very advanced stages of IL development shows that optionality may not be resolvable once feature strength has been determined. It suggests that optionality occurs independently of feature strength. However, from a methodological point of view, the optionality issue can be resolved if it can be shown that L2 learners do accept both options (i.e. the **SVAO** and the **SAVO** word orders) without showing any significant preference for either form. There is anecdotal evidence that even at the very early stages of IL development L2 learners have a preference for one form over the other (Schwartz & Sprouse 1996, Robertson & Sorace, in press).

To summarise: the VFH predicts an initial L2 mental representation characterised by optionality. Eubank points out that the French-English data has both **SVAO** and **SAVO** word orders. His interpretation is that “short verb movement is optional”. The explanation given for the observed optionality is that the feature-value of INFL (Tense) is initially “inert” because the morphological features necessary for the determination of the strength values do not transfer. The VFH argues for an initial L2 state system characterised by the underspecification of feature strength. The VFH is similar to Platzack’s (1996) “initial hypothesis of syntax” (IHS) which we shall examine next.

3.2.1.1.2.1 VFH and Platzack’s IHS

The VFH and the IHS suggest that the L2 acquisition process has an obliterative effect on the existing feature values of the L1. The IHS proposes that at the initial state “all syntactic features are weak” (Platzack 1996:376). In both hypotheses L2 learners do not make any assumptions about the strength parameters of the target language. Thus a markedness hypothesis is inferred although from a minimalist perspective (Clahsen 1996). Both hypotheses propose that overt movement, being more marked, does not transfer.

The difference is that in the VFH both movement and non-movement will characterise the L2 initial state system. In the IHS there is no optionality envisaged as the initial state grammar is one with all the syntactic elements in their base position. Optionality sets in at subsequent stages when learners produce “both correct strings and incorrect ones” (Platzack 1996:376) after identifying the required strength values of the L2. If the L2 requires weak features then no optionality is envisaged at any developmental stage.

The claim that strength values of features do not transfer has been challenged (e.g. Green 1996; Schwartz & Sprouse 1996). There is empirical evidence that feature values of the L1, either strong or weak, are present at the L2 initial state and in very advanced stages of L2 development. We shall examine some of this evidence.

3.2.1.1.2.2 Transfer of Weak Features

Green (1996) investigates the acquisition of English topicalization by native speakers of the Cantonese dialect of Chinese. Green analyses written production data from advanced Chinese learners of English. The written task was timed and thus an attempt was made at tapping underlying competence rather than metalinguistic knowledge. The results show that the subjects’ ordering of syntactic constituents reflects the surface structure realisation of topicalization in their L1¹². Early learners show a “deep structure conception” of topicalization in Chinese. At very advanced stages, subjects still retain a wide range of the base-generated topic structural realisation of their L1.

Topicalization in Chinese, whether Cantonese or Mandarin (Berry 1992; Sung 1991; Lin 1992) is base-generated, while in English it is by movement. Strong <+Top> features trigger topicalization in English. In Chinese <+Top> features are weak. The fact that base-generated topics are prevalent in the early stages of L2 development and persist to advanced stages suggests that weak features of the L1 transfer into the initial L2 mental

¹² Yip (1995) also found that the Chinese-English IL grammar of her subjects reflected the surface syntax of Chinese topicalization rather than English. However, Sasaki (1997) has very interesting results. Not only did the Japanese learners of English exhibit the surface syntax of Japanese topicalization but they also had a mental representation for topicalization which was neither English-like nor Japanese-like.

representation. If the strength values of features under the functional head Top were 'inert', there would have been syntactic optionality, and both base-generated and movement topics would have been prevalent in the very early stages as predicted in the VFH. Yet there were only base-generated topics in the early stages which continued up to the advanced stages.

This challenges the VFH which assumes that L2 learners initially exhibit optionality of syntactic movement. In Green's study non-movement is obligatory and persists to the most advanced stages. In the VFH after the acquisition of the morphological paradigm of the TL then feature strength is determined. Once feature strength has been determined, optionality is resolved and the obligatory target structures become a permanent feature of the IL grammar. As Green's study shows, this is not necessarily the case because the transfer of Chinese topic structures persists even after the acquisition of the "morphemic grammatical system of English" (Green 1996:119). The results reflect the possibility of a dissociation between morphology and syntax in L2 acquisition (Lardiere 1998). The findings in Green's study can be explained in the wider empirical coverage of the FT/FA thesis. Strength parameters are an abstract syntactic property of the L1 and these are subject to transfer like any other property of the L1. While Green's study provides evidence of the transfer of weak features, strong features also transfer¹³ and persist into very advanced stages of L2 acquisition. We shall examine the relevant evidence next.

3.2.1.1.2.3 Transfer of Strong Features

Yuan (1995) investigates the acquisition of base generated topics by native speakers of English learning Chinese as an L2. Although Yuan's hypothesis is not about the status of FCs in initial state grammars, his study is informative on the nature of initial state grammars, especially on the transfer of feature strength.

¹³ However, Fuller & Gundel (1987) argue that topic-prominence is a universal developmental stage in IL development. They base their arguments on the view that features of topic-prominence syntax were found in the IL grammar of learners whose L1s were not topic-prominent and from those whose L1s were topic-prominent in their acquisition of English. See Jin (1994) for counter-evidence for the "topic-prominent" stage.

In Yuan's study numerical magnitude estimation is used on acceptability judgements. English-speaking beginner learners of Chinese reject the topic coindexed with a gap inside a sentential subject (i.e. *na tai jisuanji nixianzai yong* (*that computer that you want to use now is impossible)) and a wh-island (i.e. *zhe zuo fangzi wubu zhidao ta dsuan* (*This house I don't know when he is going to sell)) (Yuan 1995:578) and this continues to advanced stages. The topics are grammatical in Chinese but as can be seen from the translations the equivalent sentences are ungrammatical in English. For native speakers of English to reject the gap sentence suggests that the learners treat the relationship between the gap and the topic as one of movement. Both sentential subjects and wh-islands are islands to movement (Chomsky 1977, White 1988a, 1992a, White et al 1992). Because English instantiates wh-like movement in topicalization, subjacency applies. The gap in Yuan's study is therefore interpreted as violating the subjacency principle. Subjacency is irrelevant in Chinese topicalization as topics are base-generated. Since even the most advanced learners reject the gap sentences, Yuan attributes this to three factors: (1) misleading Chinese positive evidence, (2) the initial absence of the CP projection and (3) processing constraints.

In Yuan's view early L2 learners of Chinese adopt an incorrect parsing strategy which "diminished the triggering effect of the positive evidence for CP projection, absent at the initial state" (Yuan 1995:567). It is assumed that because the CP projection is initially missing, then there is no position for the topic in the syntactic tree in the learners' initial L2 grammar. While Yuan takes an MTH stance in explaining the late acquisition of base-generated topics in L2 Chinese, it is more plausible to argue that if Yuan is correct in assuming that native speakers of English adopt an incorrect parsing strategy and thus analyse the initial topic NP as a subject in examples like *ta jia lideren, wozhi jian-guo ta mama* (*People in her family, I've only met her mother), then these learners have both an L1-like IP and a CP projection in their L2 initial syntax. The initial NP is interpreted as a subject as a result of the transfer of the English IP. The continued rejection of the gap sentence is evidence that strong <+Top> features under the functional head Top in their L1 transfers into the L2 initial state.

In the MTH learners form mental representations about L2 structure on the basis of L2 evidence only. In consequence, native speakers of English should not have been misled into interpreting the Chinese topic as a subject NP if they were using L2 functional structure. Secondly, they should not have obeyed subadjacency if they did not have a CP projection because topicalization is by movement to Spec-TopP, i.e. the specifier position of a functional projection TopP which is a CP level projection. The fact that these English-speaking subjects impose this analysis in their Chinese L2 grammar shows that they have transferred their L1 functional projections. The misanalysis of the L2 input is a result of the English syntactic structure being used as an initial hypothesis of L2 Chinese syntax. This follows naturally from Yuan's observation that while subjects can be dropped in Chinese, the topic cannot. Consequently, in both the non-gap and the gap sentences, the results suggest that the IL grammar has functional structure: an IP and CP both of which have been transferred from the L1.

On the other hand, what is particularly important is that native speakers of English transfer their strong <+Top> features into their initial IL grammar. They reject the gap sentence as this violates subadjacency which is available in their L1¹⁴. This challenges both the VFH and the IHS views. The VFH's view of an initial state grammar with "inert" features is found wanting as subjects transferred the strong <+Top> features and this continued into the most advanced stages. This dovetails with the transfer of weak features in Green's study which also persisted to the most advanced stages. Secondly, the study provides a challenge to Platzack's view that L2 learners assume weak strength parameters at the initial state. In Yuan's study English-speaking subjects do not accept base-generated topics contrary to what is expected if their initial state grammar comprises of weak features only. While both the VFH and the IHS propose that beginner learners do not make any assumptions about the strength parameters of the TL, Yuan's and Green's studies provide empirical evidence that L2 learners initially assume the L2 is like the L1.

¹⁴ Yuan's results are similar to Jin's (1994) findings. Jin investigated the acquisition of topicalization by native speakers of English learning Chinese. The Chinese topic is treated as a subject NP and thus suggesting that the native speakers of English are using their L1 structural realization of IP in analyzing Chinese input data.

Summarising: the VFH predicts an initial L2 representation characterised by optionality. Eubank attributes this to the underspecification of the values of morphological features. At the initial state these are inert. This (somehow) leads to optional syntactic movement. Eubank's VFH strongly favours partiality of L1 influence at the L2 initial representation and a direct feature-to-form mapping. The VFH is similar to the MTH in this respect. Both the MTH and the VFH do not argue for "full competence" at the L2 initial representation. The MTH is in favour of an initial state with all FCs missing while the VFH argues for the underspecification of feature strength under functional heads. Syntactic representations are acquired after the morphophonological realisation of specific functional morphemes. However, existing empirical evidence from the acquisition of a wide range of languages suggests a whole sale importation of the L1. We examine the Full Transfer and Full Access Hypothesis (FT/FA) which has been supported in most of the studies we have reviewed.

3.2.1.1.3 Complete Syntactic Tree: FT/FA

In Schwartz & Sprouse's (1994, 1996) FT/FA the influence exerted by the abstract properties of the L1 grammar on the L2 initial representation is "absolute". Although the whole of the L1 grammar (excluding the phonetic matrices of lexical/morphological items) influences the L2 initial state, this is not to suggest that IL systems are entirely constrained by the L1 grammar throughout L2 development. The main thrust of the FT/FA is that although the principles and parameter values instantiated in the L1 grammar filter into an initial representation of a new grammatical system, the ILG, this happens on first exposure to L2 input. Restructuring of the IL system becomes paramount as a reaction to unfamiliar L2 input. Thus failure to assign a representation to input data will force restructuring of the IL system. The restructuring of the "new" IL system is based on options permitted by UG.

The rate with which different IL structures are restructured differs. Restructuring may be rapid in some cases: for instance, determining word order constituents in the TL, i.e.

whether it is head initial or head final. But in other structures, for example, restrictive adverbs in languages like German, restructuring may be gradual. The IL grammar continually restructures itself and each intermediate stage is viewed as a distinct IL grammar which is different from the L1 and TL¹⁵. This point is also emphasised in Bley-Vroman (1983) who argues that IL "grammars" should be treated as independent linguistic systems in their own right and not parasitic to the TL. Thus even if there are aspects of the IL grammar that match those of the TL, these need not be interpreted as an indication that the two linguistic systems share the same underlying syntactic analysis. The syntactic analysis of the IL may be different from that assigned in the TL.

The difference in knowledge representations at ultimate attainment may be attributed to the differences in the starting points in L1 and L2 acquisition. Unlike in L1 acquisition, the L2 starting point has parameters with already set values in the L1. The L2 learner does not start from "learning-theoretically de-learnable defaults" (Schwartz & Sprouse 1996:42). It is also possible that the input data needed to force restructuring does not exist and that even if learners are exposed to negative evidence this does not have an effect on the development of L2 competence (Schwartz & Gubala-Ryzak 1992). It could also be the case that whatever positive evidence is needed to force restructuring, this is obscure, rare, not robust enough or too complex. This might be the case if the L1 grammar is a superset of the TL¹⁶. Because all the sentences that are grammatical in the subset grammar are also grammatical in the superset grammar, the TL input is parsable on the basis of the initial L1-like grammar. Thus if the initial hypothesis includes a superset grammar, it will be confirmed by the parsing device. Learners might wind up in local maxima where there is lack of relevant evidence necessary for restructuring to take place. This accounts for certain cases of fossilisation in adult L2 acquisition¹⁷.

¹⁵ This is similar to Corder's (1973) interlanguage developmental continuum.

¹⁶ In 3.1.2.1.1 it was indicated that there are doubts that UG parameters yield languages in a superset/subset relationship.

¹⁷ As indicated in 3.2.1.2 Schwartz & Gubala-Ryzak (1992) and Zobl (1988) still argue that even in these nested languages it is subtle positive evidence which acts as triggering data.

In support of the FT/FA hypothesis, Schwartz & Sprouse investigate the development of L2 German by an adult native speaker of Turkish. The investigation is based on a longitudinal corpus of speech production collected over a period of 18 months. The main area of interest is the development of the mechanism of nominative case assignment. The identification of the stages depends on the nature and position of subjects relative to the finite verb. Three stages are identified in the development of L2 German. Cevdet's initial production data had an overwhelmingly (X)SVO word order which is not characteristic of Turkish. This is taken as evidence of an underlying SOV order, with obligatory raising of the finite verb to COMP. Non-finite verbs remain in the head-final VP.

The FT/FA is based on the assumption that the L2 initial state is determined by the parametric properties of the L1. Cevdet's initial state grammar is expected to be characterised by a preponderance of finite verbs and SOV word order. Yet Cevdet shows a predominantly SVO word order. Schwartz & Sprouse (1994) argue that because Cevdet had exposure to the TL the parameter responsible for verb-raising to COMP had already been activated. Thus a hypothetical initial state, stage 0 is postulated¹⁸. They take Vainikka & Young-Scholten's findings of an OV stage in their findings in their Turkish-German learners. The extra constituent that optionally precedes the subject in stage 1, according to Schwartz & Sprouse's analysis, is an instance of optional adjunction to CP.

At stage two, post-verbal subjects appear robustly although only as pronouns. The IL grammar still lacks proper V2 because sentences with the verb preceding a nonpronominal subject are still not produced. Thus the IL grammar in stage 2 is different from the TL grammar. In stage 3 there are both nonpronominal and pronominal post-verbal subjects. There is no convergence between Cevdet's grammar and the TL system. Even at this advanced stage, Cevdet's grammar is still not yet strictly V2-like in that it permits XPSV. This aspect of Cevdet's grammar is a prime candidate for fossilisation as there is no input

¹⁸ Although this is plausible, it reflects the problems of empirically defining and capturing an initial state: when faced with contradictory evidence a researcher can always claim that "evidence from an earlier stage would have been more favorable" (Robertson 1996).

in German that could force its de-learning. Cevdet will only be exposed to main clause sentences with V2 and there would be nothing in the input to suggest that V3 is ungrammatical.

The FT/FA is further supported by the observed differences in L2 developmental paths shown by L2 learners from different L1s learning the same L2. An example given is that of Romance L1 speakers learning German as an L2. Schwartz & Sprouse state that these learners pass through a series of IL grammars in their acquisition of verb-placement in German which differ from the IL grammars exhibited by Turkish L2 learners of German. Schwartz & Sprouse make the point that since the TL input is kept constant for both sets of learners, whatever differences arise must be attributed to the L2 initial state which serves as a basis for further IL development.

To conclude: we have provided a detailed discussion of the different views on the L2 initial state and what each view predicts in terms of (1) the nature of the initial state grammar and (2) the extent to which L1 functional structure transfers. A number of studies reviewed suggest that the initial state grammar comprises of properties drawn from the L1. While we have focused on the predictions the three views make on the nature of the initial state grammar, we now turn to the predictions each hypothesis makes on the nature of the developing grammar at subsequent developmental stages.

3.3 Subsequent IL Development

The nature of the subsequent IL grammar is determined by the prediction each view makes about the initial state. The different hypotheses predict different subsequent developmental stages. We shall examine these predictions in the next sections.

3.3.1 From Minimal Trees

The Minimal Trees Hypothesis (MTH) predicts subsequent developmental stages characterised by optionality. Optionality is explained in subsequent intermediate stages as a result of the grammar of the previous stage competing with the grammar of the next

stage. This optionality arises “from overlaps between adjacent stages of development” (Sorace 1996b). This occurs as the grammar of one stage gradually replaces that of the previous stage. Thus in subsequent developmental stages there may be a period of overlap in which the earliest grammar competes with the new one (Gavruseva & Lardiere 1996).

As indicated, like other weak continuity accounts, the acquisition of FCs is input-driven. It is triggered by lexical learning of the relevant lexical functional elements of the TL grammar. In more advanced stages, once these elements have been learnt, knowledge of the relevant syntactic correlate would also be acquired. In advanced stages, the optionality shown in intermediate stages is resolvable and the IL grammar is predicted to converge with the TL. The knowledge representation at ultimate attainment will approximate that of native speakers.

3.3.2 From Valueless Features

The Valueless Features Hypothesis (VFH) predicts that in structures that involve movement or non-movement subsequent development is assumed to be in the form of the acquisition of the relevant morphological inflection which then leads to the value of the particular functional head being specified as [+/-strong], the consequence of this is no movement if the features are weak, or obligatory movement if the features are strong. In structures where movement is involved, the subsequent IL grammars are predicted to be characterised by an abrupt resolution of optionality. Optionality ends once the inflectional paradigm associated with the relevant FCs has been acquired. Intermediate/advanced grammars will either have obligatory movement or non-movement depending on what is required by the TL. The resolution of optionality suggests that the grammar of very advanced learners will converge with that of native speakers.

3.3.3. From Full Transfer.

In the Full Transfer and Full Access Hypothesis (FT/FA) subsequent IL grammars are predicted to show optionality as a result of the “competition between the L1 grammar and the L2 grammar” (Sorace 1996b). This intermediate optionality may be resolved as the

“L1 option is increasingly dispreferred and eventually abandoned” (Sorace op. cit.). However, the resolution of optionality is not totally guaranteed. Its resolution depends mainly, on the hypothesis formulated at the L2 initial state or on the basis of the L2 initial state (see the XSVO analysis attributed to Cevdet). If the hypothesis includes a wider grammar, for instance, a superset grammar when the L2 requires a subset, optionality may not be resolvable as the input is “obscure”. The resultant knowledge representation may be incomplete or it may be divergent (Sorace 1993). Thus, development in L2 acquisition is from absolute L1 influence at the L2 initial state to optionality at intermediate stages with the possibility of resolution of optionality dependent on the hypothesis formulated on the basis of the initial state (Montrul 1996).

To conclude: this chapter has dealt with theoretical issues related to the development of L2 grammatical competence. It has been suggested that the logical problem is also applicable in L2 acquisition because L2 learners display knowledge of language that transcends the input. A question arose as to the nature of the input L2 learners are exposed to. It was stated that although L2 learners are exposed to both positive and negative evidence, the development of L2 competence is on the basis of positive evidence only. Regarding the role of negative evidence, it was argued that whatever empirical evidence there is, it indicates some effect on the rate of acquisition but not on the process of L2 grammar-building. Thus negative evidence is ineffectual in the development of L2 competence.

A discussion on the nature of the input inevitably led to questions about learnability considerations in L2. It was established that although learning principles such as the subset principle may no longer apply, learnability issues still apply. Learnability in L2 not only has to explain the nature of the input but also the initial state. As the L2 learner has already internalised a grammar of a specific natural language, the initial state consists of this grammar. The varying degrees of success or the different types of knowledge representations displayed by L2 learners were then attributed to differences in initial states.

In L1 acquisition the initial state consists of UG principles and open parameters while in L2 acquisition the initial state consists of UG principles and parameters set to their L1.

This chapter also examined the status of FCs at the L2 initial state. It was established that the MTH proposes that initial L2 grammars lack functional structure and that the initial state system consists of a “bare VP” which is more akin to Radford’s “small clause” in L1 acquisition. In contrast, the FT/FA claims that all functional projections are represented at the initial state although these are in their L1 form. While in the MTH the initial IL syntactic tree has missing syntactic positions, the FT/FA predicts an initial IL system characterised by a full conservation of L1 properties. In addition, while the VFH maintains that initial L2 grammars evidence functional structure transferred from the L1, it argues against the transfer of feature strength. The VFH predicts an initial mental representation characterised by an incomplete functional representation. The VFH, just like the MTH, argues for partiality of L1 influence.

It was also pointed out that the three hypotheses predict instances of optionality at the initial state although for different reasons. First the MTH and FT/FA predict “free” optionality at the initial state as a result of ignorance. In the MTH this is expected in structures that involve FCs. Since L2 learners lack FCs in the early stages, then indeterminate intuitions are expected as a result of lack of knowledge. In the FT/FA optionality can be expected only in those instances where a FC not instantiated in the L1 is required by the L2 grammar. Similarly, the FT/FA and the MTH predict optionality at subsequent intermediate stages. In the MTH this is due to an overlap between two adjacent stages whereas in the FT/FA this is due to grammar competition wherein the transferred L1 form is in competition with the newly acquired L2 form. We also indicated that while in the MTH and VFH convergence at ultimate attainment is guaranteed, in the FT/FA it is not.

By and large, the last two chapters have given us a theoretical background to our experimental study. In the next chapter we examine the language context of the study.

Chapter 4

Language Context of the Study

4.0 Introduction.

This chapter addresses problems of language in relation to government policy during apartheid South Africa and under the present government. The aim is to give a brief historical overview of previous policies in order to establish the importance of Zulu second language acquisition among English speaking South Africans. It will be established that current language policies which have led to the introduction of previously neglected languages such as Zulu, Xhosa etc. to the white schools curriculum are an attempt at altering the damage that earlier language policies inflicted on other race groups, especially to English and Afrikaans speakers.

Two Biblical “representations” of language will be used. First, we draw from the representation of language in the Old Testament where language is used as a divisive tool¹. Given that apartheid language policies excluded African languages from official status and that language played a major role in dividing the society into different tribal groups, each with its own Homeland State, these policies were used to divide people on the basis of their language. Second, we also use the representation of language drawn from the New Testament where language is used for reconciliatory purposes to promote unity among people from different language backgrounds². Thus Apartheid language policies constitute the building of the Tower of Babel while the introduction of other languages as official languages is viewed as dismantling Babel and letting everyone ‘speak in tongues’.

¹ In Genesis 11 men from the east settled in the plain of Shinar and decided to build a tower. The men from the east are the Dutch and the English colonial settlers and their decision to build the tower is the colonialists’ intention to re-define themselves as superpowers in a foreign land.

² In Acts 2:2-4 men from the east were filled with the holy spirit and spoke in tongues and understood each other (unity in diversity).

4.1 The South African Language Milieu.

At present there are eleven officially recognised languages in South Africa. These are: Afrikaans, English, Sepedi, Sesotho, Setswana, Siswati, Xitsonga, TshiVenda, Ndebele, Xhosa and Zulu. There are also 82 or more other African languages spoken in South Africa which form part of the minority language groups. In Table 1 below the distribution of the major languages is shown.

Table 1: Languages of South Africa.

Language	Size as % population
Zulu	24
Xhosa	17.5
Afrikaans	15.1
Sepedi	9.8
English	9.1
Setswana	7.2
SeSotho	6.9
Xitsonga	4.2
Swati	2.6
TshiVenda	1.7
Ndebele	1.5
Afrikaans/English	0.2
Other	0.6

English stands as a major international language, while the rest are indigenous languages. Afrikaans originated from various 17th and 18th century Germanic dialects spoken by uneducated Dutch immigrants who settled in the Cape (Wessels 1996:173). These dialects underwent change due to their constant contact with Khoi speakers and English, French, Malay and the Portuguese settlers. This led to the development of three varieties of

Afrikaans, i.e. Cape, Orange River and Eastern Frontier Afrikaans which later developed into what is now Standard Afrikaans (Grobler 1990:9).

The Bantu languages form part of the South-Western zone of the Bantu group which is fairly homogenous (Schuring 1990:25). It is made up of about 600 languages in all (Bailey 1995). It covers a large part of Southern Africa and it includes countries like Swaziland, Lesotho, Botswana, a part of Zimbabwe and the Southern part of Mozambique. The South-Western zone consists of five language groups, namely; Nguni, Sotho, Venda, Tsonga and Inhambane of which the first four are mainly spoken in South Africa. The language groups are not mutually intelligible from group to group although within each group these languages are closely related and they are “mutually intelligible” (Schuring 1990:25).

Although English and Afrikaans are spoken and understood throughout South Africa, African languages are more regionally based (Grobler 1990:55). This is a direct consequence of the implementation of Verwoerd’s “divide-and-rule policy” (Msimang 1993; Benjamin 1995) as part of the Bantu Self Government Act of 1959³. In urban centres like Pretoria and Johannesburg and some parts of what used to be called the PWV⁴, all African language groups are represented (Schuring 1990:112).

While English and Dutch enjoyed the status of official languages until 1910, Dutch was replaced by Afrikaans in 1925 (Wessels 1996). The other remaining nine languages (all African languages) enjoyed official status on a regional basis (Schuring 1993:110). This meant that Zulu was an official language in the Homeland of KwaZulu and Xhosa was an official language in Transkei and Ciskei. The introduction of these languages as official languages came after a long struggle as Afrikaans and English were considered the official languages. Even after the Homeland Act was passed and African languages were declared

³ Under the Bantu Self Government Act, African Languages were distributed according to Homelands. For example, Zulu was confined to KwaZulu-Natal, while Xhosa was spoken in the Cape Province, Transkei, Ciskei and part of the Eastern Cape.

⁴ PWV stands for Pretoria-Witwatersrand-Vereeniging & Vaal Triangle.

official languages in their respective Homelands, all official documents were still written either in English or Afrikaans. This practice ended with the introduction of the new interim constitution where provision is made for eleven official languages, their development and their equal use (Government Gazette, 28 January 1994, 4-6).

4.1.1 The Tower of Babel

The issue of language in South Africa has revolved around the relative positions of English, Afrikaans and African languages as media of instruction. The language used as a medium of instruction has often been determined on the basis of the political and economic power of its speakers (Macdonald 1990; Hartshorne 1992). In order to contextualise the current situation in South Africa, especially the reasons behind the introduction of African languages like Zulu, Tswana etc. into the main stream curriculum, a brief overview of the history of African languages and the South African Education system is necessary. First, we focus on language policies of the previous government. This will enable us to put the subsequent debate on the importance of Zulu second language acquisition into perspective.

4.1.1.1 Apartheid Language Policies

The issue of language has been highly controversial in the history of Education in South Africa (Hartshorne 1992). English and Dutch were recognised as the two official state languages from 1910 (Maake 1995). The South African government had no interest in the education of African children or in the development of any level of literacy among Africans in their own L1s. The focus was on Afrikaans and English. Efforts to educate Africans was initiated by missionaries. British missionaries believed in the value of education through the medium of English. Missionaries from Switzerland and Germany were keen in using the mother tongue as a medium of instruction. They argued that mother tongue instruction had pedagogical benefits.

English became a dominant language in schools for Africans as a result of British colonial policy. In Natal and the Transvaal there was still a growing interest in the use of

vernacular languages (Hartshorne 1992:189). By the time of the Declaration of the Union of South Africa in 1910, English was entrenched as a dominant language in most provinces except the Transvaal and Natal. British missionary schools right across the country produced what the Apartheid government described as "Black Englishmen" which was against the wishes of the government. It was never the intention of the South African government to foster knowledge of English among Africans. English became a second language to Africans as a "historical accident" (Maake 1995). This created problems for the South African government because the intention had been to teach Africans just enough English and Afrikaans to enable them to carry out instructions as servants and unskilled labourers. The problem became more acute when the first English-speaking intellectuals became the first founders of the liberation movements (Sparks 1991).

The intention of the government was to impose Afrikaans as the official language of South Africa. There was a lot of debate amongst the "Genooskap van Regte Afrikaners" (the Fellowship of True Afrikaners) as to whether Dutch should be replaced by Afrikaans or not. The problem was that Afrikaans was underdeveloped. Conservative Afrikaners worked towards lexically developing and standardising it. This included the establishment of several institutions in order to enable Afrikaners to conduct all state, social and technological functions in their primary language (Benjamin 1995:101).

In 1925 Dutch was replaced by Afrikaans as an official language. From this point onwards, English and Afrikaans became the official languages. The role of official languages in White education became a subject of debate in the language policy scene only after 1910 up until about 1940. On the one hand, there was the "Herzog-Smuts approach" which emphasised the introduction of bilingualism in order to create the spirit of "South Africanism" (Wessels 1996:176) for White South Africans. After the second world war, an attempt was made at introducing a "dual medium of instruction" as the official policy in White schools. This meant that both Afrikaans- and English-speaking children were to be taught in English and Afrikaans. The bilingualism approach met with a lot of resistance from the conservative Afrikaners who were emphatic on exclusive L1 instruction in

separate schools for Afrikaans children which “would provide the emotional drive for the acquisition of the political and economic power” (Hartshorne 1992:191) which Afrikaners were hankering after. It is this second Afrikaner view, popularly known as *the mother tongue principle*, which dominated language and education policy for years to come.

The introduction of the mother tongue principle had advantages to speakers of Afrikaans and English. These two language groups were taught in their L1s. It was not necessary for native speakers of English to learn Afrikaans as the medium of instruction was English, their L1. The English speakers had their own schools, colleges and universities where English was the medium of instruction. The Afrikaners also had their own institutions where Afrikaans was the medium of instruction. Although Afrikaans was offered, it was optional for native speakers of English just as English was optional for Afrikaners. However, because Afrikaans had become “the language of power” (Louw-Potgieter 1991), some native speakers of English learnt it in order to achieve social and economic advancement.

The introduction of the mother tongue principle led to questions about why the same principle was not extended to speakers of African languages. It is only in the 1930s that the concerns about the position of African languages in relation to the education of African children was first expressed (Wessels 1996:176).

In 1935 the Interdepartmental Committee (the Welsh Committee) on Native Education was set up and it began its investigation into African languages and African education. The investigation established that African languages should be used as media of instruction to African children between the age of 4-6 years depending on the particular province. Thus children in KwaZulu had to be taught in Zulu in the first years of schooling, while those in Transkei had to start with Xhosa as a medium of instruction. Thereafter, an official language, usually English, was introduced as the language of instruction (Hartshorne 1992:192-193). Although the Welsh Committee had recommended the use of an L1 as a medium of instruction for the first four years of schooling, it was in favour of extending it

beyond this grade. The committee further recommended that African schools should be organised on a language or language-group basis. In multilingual areas each school was to be allowed to introduce an official language as the language of learning at an earlier stage than was usually permissible. The Welsh Committee made rather unpalatable recommendations (from the viewpoint of the government) by suggesting that for educational reasons, it would not be prudent to make three languages compulsory. Hence Afrikaans had to be included only as an optional subject in teacher training.

In 1938, the recommendations made by the Welsh Committee were ignored as a new curriculum was issued by the government wherein both English and Afrikaans were compulsory subjects. It was stated categorically that the official language more generally spoken by the Europeans living in or near the area from which the children were drawn should be studied as the first official language. For instance, African children in the Cape province had to learn English as the language generally spoken by the Europeans is English while those in the Transvaal had to learn Afrikaans. Oral instruction in this language had to begin in the first year of schooling. The second official language had to be formally introduced in the fourth year, preceded by oral exercises in the previous years (Hartshorne 1992:194). This policy was a reflection of the current thinking of the Nationalist Afrikaner politicians whose sole intention was to make Afrikaans “a symbol of exclusiveness and separateness” (Hartshorne 1992:195).

In 1948 when the Nationalists came into power the Eiselen Commission was appointed in order to investigate the role of African Languages and the education of Africans. While the Commission recommended that the use of L1s as media of instruction should be extended by a further four years, the position of official languages was to remain the same. At least this time it had to be introduced in the second year of schooling while English, the second official language, was to be introduced in the fourth year.

In 1953 the Bantu Education Act was passed. This led to the establishment of the Central State Department for African Education which took over control of the African schools

from the provinces and the mission churches. Missionaries had to be removed from the education scene because they were seen as spoiling the government's intentions of keeping Africans as slaves and labourers in the farms. The intellectual advancement of Africans was always felt to be a potential threat to the state. The concern was for Afrikaans rather than the use of African languages and the education of Africans. Various measures were taken to ensure that Afrikaans was entrenched as a dominant language in African education, especially in areas such as management control, administration and teacher training. Although Eiselen's recommendations were followed regarding L1 instruction, some were disregarded. The government enforced that both English and Afrikaans become compulsory subjects in the very first year of schooling in African schools.

To extend its policies of mother-tongue education within Bantu Education, the government took up the task of developing African languages into fully standardised languages although their use was to be limited within the Bantustan (Cluver 1991). Language boards were formed to expand the vocabularies of the larger African languages for use in secondary schools and tertiary education. This meant that at primary school the media of instruction were English and Afrikaans and then at high school level there would be a switch to mother tongue instruction. Hartshorne observes that the reason why the government did not allow for choice in the official languages was a reflection of a deep-seated fear that English would be the choice which would undermine the status of Afrikaans. The confusing aspects of this policy are the delay in the introduction of mother tongue instruction.

This policy was heavily criticised by parents and teachers, the Institute of Race Relations and the South African Council of Churches. Different organisations tried to persuade the Department to reconsider its language policy. The department was adamant and uncompromising, especially at primary school level although a number of exceptions were authorised for secondary schools. They could continue using the official languages as media of instruction if they wanted to. After a year of back and forth arguing, the government finally "relented" and the mother tongue was introduced from the first year of

schooling. With the passing of the Bantu Education Act of 1953 Number 47 Amendment Bill, English and Afrikaans were no longer to be taught in African schools. Speakers of African languages were to be taught in their L1s up to tertiary level. This policy was rejected outright (Brown 1988/9).

Researchers have expressed mixed reactions to this objection to mother tongue education. Dirven (1990) argues that African languages could have been developed had it not been for speakers of these languages who dismissed the government's intentions to do so when these languages were introduced as media of instruction. Reagan (1985) challenged these objections on pedagogical grounds. McLean (1990) also argues, citing pedagogical implications of mother tongue education, that this policy was for the first time apolitical. Cluver (1991) also states that the introduction of mother tongue instruction within Bantu Education was apolitical and had pedagogical benefits. Cluver further states that the extension of the mother tongue principle was a reflection of the government's support for the language rights of other racial groups.

Researchers who view the objection of mother tongue instruction by native speakers of African languages as having been self-destructive are taking a rather superficial view of the "language struggle" of South Africa during apartheid rule. First, as shown by Brown (1988/9) speakers of these languages did not object, *in principle*, to the development of African languages neither did they object, *in principle*, to mother tongue instruction and its potential pedagogical benefits. They objected to mother tongue instruction because they saw it as a means of further isolating them from economic development in the country. Perhaps the question is, was this policy good or bad?

McLean (1990:72) states that:

"... a language policy is not intrinsically good or intrinsically bad. It is good or bad... in terms of its human consequences within the specific socio-political milieu which it occupies."

The mother-tongue policy could have been a good policy but it was imposed on an already disempowered population. The prevailing socio-political situation was such that this policy was seen as a further denial of human rights to speakers of African languages. Mother tongue instruction would have had pedagogical benefits only if African languages had not been accorded a low status. It is well known that "knowledge of the official language becomes a prerequisite for appointment and promotion in state institutions" (Benjamin 1995:98). Those without knowledge of these languages are excluded from these jobs. English and Afrikaans were the official languages and their removal from the African schools curriculum meant that speakers of African languages were totally excluded from any other jobs other than being slaves and labourers. While for white South Africans social and economic advancement was achieved through mother tongue proficiency, there was no such benefit with African languages. Speakers of African languages viewed this as a means of isolating them from the ruling elite, excluding them from any possibilities of economic advancement and from any prospect of international participation.

With the introduction of the Homeland States, the Government faced another challenge. After Transkei became an independent state with its own governing powers, the new Transkei government removed Afrikaans as the official language and it was replaced by English. Xhosa was then used as a medium of instruction for the first four years of schooling and thereafter English took over. From 1967 onwards all the other Homeland states got increasing authority for certain legislative functions and they also followed the example that had been set by Transkei. At this point it was clear that there was a parting of ways between the Homelands and the Central Department (Wessels 1996:180). The Homeland States were introduced in order to divide the different African ethnic groups. Yet these groups were all united in their desire to develop their own languages and formulate an education policy that would promote the education and advancement of Africans.

The Central Department recognised its mistake and from August 1974 the department took a doctrinaire approach. The granting of exemption was abolished. All subjects had to

be taught in Afrikaans at all levels of education in African schools, universities, colleges of education including those in the Homeland States. Maths, Zulu, English etc. were all taught in Afrikaans. In 1975, for the first time, public examinations in African schools were written in Afrikaans for all subjects. This hard-line stance which the government took was criticised by a number of organisations throughout 1975 and the early part of 1976. It also led to the '1976 Soweto Uprising' and a total collapse of African education.

Many pupils in higher primary and junior and senior secondary schools embarked on a strike action. Pupils of Orlando West junior primary and secondary school were the first to boycott classes and refuse to be taught in Afrikaans. They burnt all Afrikaans books. The strike action soon spread out rapidly throughout Soweto. Pelzer (1976) notes that on June 14 the Urban Bantu Council had warned the Central Department about the impending strike action. The Central Department was adamant the *status quo* had to be maintained.

On June 16, 1976 the "language struggle" took a new turn and changed the whole struggle for liberation. Pupils from Soweto marched to the Department of Education denouncing the Apartheid government and the use of Afrikaans in their schools. The unarmed pupils were met by armed police and there was a confrontation which left 176 people dead. A week after this confrontation a number of pupils and teachers were arrested. Most of the pupils who were in the march were forced to go into exile in the neighbouring states. By the end of June 1976, all government schools in Soweto had been burnt down.

The government finally relented in July 1976 and schools were allowed to decide on the official language to be used in their schools. Statistics show that by 1978 when the first draft Bill to replace the Bantu Education Act of 1953 was passed, over 96% of African schools had chosen English as an official language⁵. Radical white schools and universities

⁵ Macdonald (1990) observes that although African language speakers chose English as an official language, this is not to suggest that Africans identified themselves with the English, or that they had a natural liking for English. They chose English as an act of defiance to the Apartheid regime and this was a way of rejecting Afrikaans and the whole oppressive system that Afrikaans represented.

also introduced African languages in their curriculum. In fact, the Natal Education Act of 1978 states that Zulu had to be taught in English and Afrikaans schools as a second language. This was difficult for speakers of English and Afrikaans who, although permanently settled in South Africa, had political privileges which meant they never had to learn any other language. The relationship they had shared with their African workers was always one of master-servant with the servant learning just enough of the master's language in order to follow instructions.

The introduction of African languages in their curriculum created problems. The teachers who were to teach these languages could barely speak them (Muller 1982; Maake 1995). The dilemma faced by these schools was exacerbated by the fact that while there were competent teachers who were native speakers and products of missionary education, they could not be employed as their presence in white schools would have been in contravention of the Group Areas Act. While White teachers could apply for a special license to teach in African schools and were entitled to a "Tolerance Fee"⁶, Africans were not entitled to such privileges. To repeal the Group Areas Act would have undermined the fundamental Apartheid principle of separateness. The teaching of African Languages either had to continue or be abandoned. In KwaZulu the teaching of Zulu continued, while in other regions the teaching of other regional African languages was abandoned.

In summary, it has been established that:

1. Africans were classified into ethnic groups on the basis of the languages or varieties of language they spoke. Language was used as the only basis on which Africans were classified into ethnic groups. Language played a major role in the division of society into racial and tribal groups.

⁶ White (Afrikaans or English) or any other Europeans who worked in Black institutions were granted special permits under the Group Areas Act. The permit entitled them to a "Tolerance fee", i.e. an extra pay given to a white person to compensate him for the inconvenience suffered for tolerating Black people.

(2). African languages were not made accessible to other racial groups.

Language was used as an effective barrier to block communication between different ethnic groups. The low status afforded African languages and their unavailability as subjects in white schools did not create any motivation for these groups to learn them.

(3). The separate group areas and the different education systems entrenched and strengthened the division between those classified as Whites and those referred to as Africans. Afrikaans and English speakers were privileged by the official recognition of their languages. Language was used to maintain relations of dominance.

The tower of Babel had been built but its destruction was inevitable as the Lord had granted.

4.1.1.2 After Babel

Given the role that language played in the history of South African Education, the debate regarding the language to be used in schools has been revived. The debate is no longer one of which language a particular racial group has to be taught in but rather which languages are necessary as official languages for a multilingual community like South Africa. The new South African language policy therefore aims at breaking the cycle of language oppression and over-coming the barriers of inter-ethnic communication.

To dismantle Babel, the new language policy has to redress the imbalances of the past. Instead of being divisive, the policy has to achieve some form of national unity through language. Second, instead of making one group privileged at the expense of the other groups, the aim is to create equal opportunities to most of the citizens and to foster the citizens' ability to communicate effectively in a multilingual society.

In South Africa multilingualism is widespread. The question the new policy addresses is how multilingualism can be exploited to the advantage of the majority of multi-ethnic, multi-cultural and multilingual nation states as a rich national resource and a positive force. This question is tied to the politico-philosophical question: what sort of citizen is an ideal citizen in a multilingual country? It has been suggested that in multilingual countries an ideal citizen is a multilingual rather than a monolingual (Kashoki 1977, 1992, 1993; Brann 1990; Bamgbose 1991).

In South Africa it is desirable that multilingualism be incorporated into the language policy for a new dispensation. Linguistic diversity has to be recognised in order to broaden the opportunities for more citizens to participate in national affairs. The recognition of diversity is stated in the draft language policy. General Notice 537 of 1995 (RSV) states that "diversity of language and culture shall be acknowledged and protected and conditions for their promotion shall be encouraged." (p15) This has been achieved by the introduction of eleven official languages. The intention in the new constitution is not to force each citizen to learn all the eleven official languages. The languages are distributed on a regional basis. English and Afrikaans are found in all regions while most African languages enjoy an official status in their regions, although languages like Zulu and Xhosa also enjoy a national status. For each region there are three official languages whose knowledge is a prerequisite for anyone to work or live in that region. For instance, in KwaZulu-Natal, knowledge of Zulu, English and Afrikaans is a prerequisite.

The new policy requires that each citizen learn two other languages other than the L1. The choice as to which languages one learns is determined by the region one lives in. For example, the dominant languages in the Western Cape are English, Afrikaans and Xhosa. For a Xhosa native speaker, knowledge of English and Afrikaans is a prerequisite for employment purposes, whereas for a native speaker of English it is knowledge of Afrikaans and Xhosa that is a prerequisite. For an Afrikaner, knowledge of Xhosa and English is a prerequisite for any social or economic advancement in that particular region.

As discussed, the fundamental aim of a multilingual policy is to provide equal opportunities to most of its citizen. In the new language policy it is no longer an advantage to be a native speaker of one language which is an official language, as one still has to demonstrate reading, written and spoken knowledge of other languages other than the native language. In order to provide an incentive for learning indigenous languages, there is an instrumental value attached to official languages, e.g. as requirements on job opportunities and professional advancement. The intention is that all the eleven languages are accorded equal status. While English and Afrikaans have always enjoyed the status of being official languages, the recognition of other languages (e.g. Xhosa, Zulu, etc.) is meant to have a rehabilitative effect on their status and to provide incentives for non-speakers to learn them.

Summarising: the new language policy recognises the need to promote and develop South African languages that were previously neglected. This is consistent with a democratic and non-racial language policy and with the constitutional recognition of the equality of the eleven official languages. Constitutionally and socially, African languages are regaining status. In the new language policy, language is used as a tool to unite people from different language backgrounds. This is the representation of language as expressed in the Acts of the Apostles. However, unlike the “residents of heaven” in Biblical times who only had “to speak with other tongues” when “filled with the Holy Spirit”, the residents of South Africa have encountered problems in their attempt to speak in tongues.

4.1.1.3 Speaking in Tongues

The establishment of a single Department of education with emphasis placed on the development of languages that have in the past been denied full official status has brought with it a number of problems. The suitability of African languages as viable instruments of modern government has been questioned mainly by Afrikaans and English linguists (Maake 1995). Those against the use of African languages as official languages argue that these languages are underdeveloped and it is unrealistic to expect them to become functional languages of the state to express scientific and technological concepts.

It is indisputable that these languages are, in their present state, underdeveloped but their development is not an impossibility. The case of the development of English and Afrikaans should be instructive and illustrative of the fact that any language can be developed to become a functional language of the state. Take for instance, the case of English. English was never the world or international language that it has developed to be. Jones (1953) states that English was a "rustic tongue" not suitable for the exigencies of complex forms of state craft but it has developed and become not only a world language of government business but also the premiere language of science and technology (Kashoki 1993).

The development of English is not a unique example. Combrink (1978) states that initially "Afrikaans had an embryonic literature, very few textbooks, no Bible, a puerile technical terminology and no standing in the world of commerce and industry" (Combrink 1978:69) but within fifty years it had become a medium of instruction at primary, high school and university level, had become a fully fledged language of religion, education, economics and science. The lessons that can be drawn from the Afrikaans and English example is that no matter how politically insignificant a language is, it can be developed to the status of an official language. Thus African languages may be underdeveloped now but they, too, can rise to the occasion as official languages.

However, before a new language policy can be successfully implemented, a number of factors have to be taken into consideration. For a new language policy to be functional, textbooks and suitable teaching materials have to be produced before it is implemented (Oladejo 1993). A language policy cannot be effectively implemented without the necessary textbooks and other teaching materials. The text-books must be developed to facilitate the acquisition of the necessary skills (Macdonald 1990; van Rooyen 1990). They must also be accessible and readable. With the introduction of African languages into the white schools curricula, have appropriate teaching materials been developed? Although Machet (1993) and van Rooyen (1990) state that in recent years there has been an increase in the production of language materials, McCallum (1994a, b) argues that most of it has

focused on English with only about 2% dealing with the teaching of indigenous African Languages as L2s. This suggests that there are major problems facing the teaching of African languages as L2s.

One such problem relates to the availability of suitably qualified personnel. Most of the teachers, especially non-native speakers, lack competence in Zulu. But even in instances where teachers are native speakers, their only qualification has been their ability to speak the languages. Native speakers are not properly trained to teach an L2. Some are trained as teachers but only for native-speaker literacy courses. In addition, most of the teachers employ outdated teaching methods because they are not properly trained in the more recent, well-researched, successful teaching methods. Current African language courses that have been introduced in white schools are also affected by lack of proper learning aids and the “virtual unsuitability” (Macdonald 1990:141) of conventional text material. Most of the materials that are currently in circulation are based on individual teachers’ intuitions because there are no proper textbooks or standard syllabi that could be used in (e.g. a Zulu) L2 class. Generally, current African language courses to speakers of other languages are heavily biased towards a compartmentalised, structural, grammar-based approach with very limited focus on the development of basic interpersonal communication competencies.

4.1.1.3.1 Zulu Second Language Courses

Zulu as a second language (ZSL) is taught from primary up to university level. At primary school level teachers concentrate on basic vocabulary and sentence structure. Pupils are also taught reading and writing in Zulu. There are also pronunciation and conversational classes. In most primary and high schools, the majority of teachers are non-native speakers whose L1s are either English or Afrikaans. There are also a small number of native speakers of Zulu teaching at both primary and high school. The language of instruction is, in most cases, mixed. Non-native speakers often use English although they sometimes use Zulu when teaching or talking to pupils. In some cases, pre-recorded material (with the voicing having been done by native speakers) is used. In more advanced primary and high

school classes, an attempt is made at encouraging pupils to speak Zulu. However, in advanced classes grammar is the main component of the Zulu course. During grammar lessons, teachers often explain how certain constructions are formed in Zulu.

Native speakers have a different approach in their teaching of Zulu. In the lower classes, they do not concentrate only on vocabulary and basic expressions. They also introduce basic cultural aspects like telling riddles, folktales, singing lullabies and Zulu children's games and songs. Native-speaking teachers also insist on the use of Zulu and pupils are encouraged to speak Zulu even if they make mistakes. By and large, at both primary and high school, teachers work on intuition as there is no clear syllabi for what is to be taught.

At university level there are two types of ZSL courses. First, there is Zulu for professional purposes, which is a one year course designed to cater for students in the disciplines of law, engineering and medicine who are to use the language at work. Zulu for professional purposes is discipline-specific and well structured. It concentrates on the spoken language but it also focuses on the kind of expressions students are likely to encounter when dealing with clients in their respective professions. This course is also open to non-students.

Universities also have courses for those specialising in Zulu as an academic subject. In these courses students are taught grammar, which is mainly descriptive in content. They are also taught literature, poetry, Zulu ethnomedicine and ethnomusicology etc. Courses related to Zulu traditional literature and thought are taught in Zulu while courses dealing with Zulu language structure are presented in English. Generally, university courses are far much more structured than those in the lower levels.

To conclude: we have described the South African language situation by making recourse to two representations of language: language as a divisive tool and as a means to unite people. It was established that language itself is not inherently oppressive or divisive. Its role, as a unifying or divisive instrument is defined by the people who use it and the social forces that act upon it. The introduction of African languages as L2s, although most

welcome, has been fraught with problems which may be solved with time. Being the first empirical investigation of the acquisition of Zulu L2 syntax, this study therefore contributes towards the solution of some of these problems by opening a new research area for Zulu studies.

While this chapter has provided an insight into the South African Language situation, in the next chapter we shall undertake a contrastive survey of the structures whose acquisition forms the basis of our enquiry.

A Contrastive Survey of COMP in Zulu and English.

5.0 Introduction

In order to empirically investigate the availability of functional structure in the L2 acquisition of Zulu by native speakers of English, it is essential to make a contrastive survey of the two languages with respect to the functional projection involved in the investigation. Recall that the constructions whose acquisition is central to this inquiry are sentential complementation and topicalization. Both sentential complementation and topicalization bear on the projection of a CP. As a result, this chapter provides a comparison of the syntax of Zulu and English regarding the projection of the functional category COMP. Specifically, the focus is on aspects of the two languages relevant to the syntactic processes related to sentential complementation and topicalization. The comparison is made in order to determine the areas of contrast with respect to the realisation of tensed C and topicalization that might reflect the effects of the L1 grammar on the L2. In fact, the comparison provides a fundamental theoretical basis for the experimental study in that it leads to certain predictions about the L2 acquisition of sentential complementation and topicalization by native speakers of English learning Zulu. This chapter is organised as follows:

(i) First, the discussion focuses on general aspects related to Zulu grammar. The main areas that are dealt with are the typological characterisation of Zulu, and special attention is paid to canonical word order. The phenomenon of pro-drop and the availability of null subjects and objects in Zulu is also briefly discussed. While this may seem irrelevant to our contrastive survey of the projection of CP in both languages, the inclusion of this subsection is to give the reader a broader view of the structure of Zulu especially to those unfamiliar with the language. The inclusion of this subsection, especially at the beginning of the chapter, has been necessitated by the fact that not much is known about the structure of Zulu in theoretical and Applied linguistic circles. In fact, as compared to English, much is known about the structure of English as it is a better-studied language

than Zulu. The discussion on Zulu word order is very important especially when considering the apparent similarity of canonical word order between the two languages and the potential implications this has on the analysis of Zulu positive evidence by native speakers of English, especially at the initial state.

(ii) Second, a detailed description of the internal syntax of COMP in both languages is made. In this description, attention is paid to the realisation of declarative complementation and topicalization in both English and Zulu. In this regard, a thorough comparison of CP-type C and TopP is made (see 5.2.2.1). While other CP-types available in Zulu but not instantiated in English will be mentioned, these will not be dealt with in as much detail as tensed C and topicalization. Thus while sentence final particle C^0 and expletive C^0 will be mentioned as part of a Split-CP analysis of Zulu, their realisation in Zulu grammar will not be discussed.

(iii) A detailed account of the strength values of features associated with the functional head Top^0 and the resultant structural implications in the realisation of topicalization in both languages is also considered in detail.

(iv) Implications for Zulu second language acquisition (ZSLA) with special reference to those aspects of the L1 that are predicted to have an influence on the English native speaker's Zulu ILG are considered. This part will also serve as a recapitulation of the structural differences or similarities with reference to functional categories and feature strength that will have been established in the comparison of the two structures under investigation (i.e. tensed C and topicalization). At the same time it serves as crucial background information for the predictions about the acquisition of these structures in the experimental study. Thus in this subsection attention is paid to the learnability issues that these structures pose on the English native speaker's acquisition of Zulu.

5.1. A Typological Characterisation of Zulu.

In discussing typological issues related to Zulu grammar we focus on Zulu word order. The reason for this is, mainly, that Zulu entertains many word orders to the extent that some linguists have argued that it is a non-configurational language (van der Spuy 1993b; Suzman 1992)¹. As will be established, Zulu is a configurational language because there is an orderly manner in which constituents have to appear even when these have been moved around.

Secondly, the fact that Zulu entertains all six Greenbergian word order possibilities has led to a lot of debate on whether the different word order possibilities are derived by movement (Nkabinde 1985, 1988; Posthumus 1994; van der Spuy loc.cit.). Thirdly, the importance of a discussion of Zulu word order lies in its superficial similarity with the canonical word order in English. Word order is of great importance especially in a study on the extent to which L1 structure characterises the L2 initial mental representation. Meisel et al (1981), for instance, suggest that in the initial stages L2 learners use the canonical word order of their L1. We shall examine Zulu word order and discuss the apparent structural similarity between English and Zulu in terms of canonical word order.

5.1.1 Zulu Word Order

Zulu is referred to as 'an SVO language with extensive, partly agglutinative morphology' (Suzman 1992:10). Although there is a basic word order, there is flexibility in sentence structure where pre- or post-posing change the emphasis or focus of the sentence. Suzman (1992) highlights the fact that while Zulu makes use of the SVO structure just like English, but unlike English, anyone of the six Greenbergian word order combinations are permitted². Since the lexical subject can be postposed³, thus giving rise to the VOS order,

¹ See Hlongwane (1983) and van der Spuy (1993a) for detailed descriptions of Zulu structure.

² The same word order flexibility has been found in other African languages like Chichewa (Bresnan & Mchombo 1987), KiSwahili (Wald 1979), Xhosa (Visser 1985), Kihaya (Byarushengo et al. 1976) and Setswana (Demuth & Johnson 1989).

³ Van der Spuy (1993b) argues against the movement analysis in favor of "dislocated NPs". The movement account is preferred as it can easily be explained in terms of the pro-drop parameter (Ouhalla 1994).

the other four remaining, logically possible word orders are also permitted as long as the object marker is present (Demuth & Johnson 1989; Visser 1985). For instance:

21. SVO

Abantwana ba hlupha isalukazi.
(a/the children AgrS-annoy a/the old lady)
(The children annoy the old woman).

22. VOS

Ba hlupha isalukazi abantwana.
(AgrS-annoy a/the old lady a/the children)
(The children annoy the old lady)

23. OSV

Isalukazi abantwana ba ya si hlupha.
(a/the old lady a/the children AgrS-Tns-**AgrO** annoy)
(The children annoy the old lady)

24. SOV

Abantwana isalukazi ba ya si hlupha.
(a/the children a/the old lady AgrS-Tns-**AgrO**-annoy)
(The children annoy the old lady)

25. OVS

Isalukazi ba ya si hlupha abantwana.
(a/the old lady AgrS-Tns-**AgrO**-annoy a/the children)
(The children annoy the old lady).

26. VSO

Ba ya si hlupha abantwana isalukazi.

(AgrS-Tns-**AgrO**-annoy a/the children a/the old lady)

(The children annoy the old lady). (van der Spuy 1993b:336)⁴

The observed flexibility in Zulu word order has led some to argue that Zulu is a non-configurational language (Canonici 1995, 1996). It is often argued in typological linguistics that non-configurational languages have a “flat” structure and that word order is completely free (Saito 1985). It has just been observed that Zulu has a relatively “free” word order. But is Zulu word order so free that it can be considered a non-configurational language?

As stated, van der Spuy (1993b) argues against Zulu being a non-configurational language. Although there is flexibility in the surface appearance of constituents in Zulu, there are certain restrictions to their placement. It has been suggested that non-configurational languages often allow for discontinuous constituents, for instance, a nominal expression may be separated from the determiner by another constituent (e.g. a verb). Assuming such a criterion, it can be argued that Zulu is a configurational language. One of the diagnostic features of a non-configurational language is that a verb and its subcategorised elements do not form a VP constituent, i.e. non-VP material can be found between a verb and its complements. As can be seen in the above examples, this not true for Zulu. This would seem to suggest that Zulu is not a non-configurational language. As has already been established, when the object is moved to other positions other than its subcategorized position the AgrO morpheme is obligatory in the elements of the VP complex. This seems to suggest that the AgrO morpheme maintains the constituents of the VP even if these are no longer in their subcategorised positions. In non-configurational languages there are no such restrictions (Saito 1985).

⁴ Note that while all the examples given above have been taken from van der Spuy, the examples in (22) and (23) have been changed slightly. van der Spuy inserts the AgrO morpheme si in (22-27) which, although it does not render the sentences ungrammatical, it makes them sound odd or redundant because in Zulu AgrO is used only when the object is no longer in its subcategorized position. However, in (22) and (23) the object is in its base position and thus the presence of AgrO is not required.

The flexibility of Zulu word order has led to questions about whether the different types of word orders are derived by movement or whether they are base generated in situ. While van der Spuy argues that all the different word order patterns manifest in Zulu are derived by base-generation, this view is highly questionable although at the same time there is evidence that his non-movement account might be right after all. First, in support of the non-movement account is the sudden appearance and obligatoriness of Agr0 which indicates that the object has been “moved” or “transposed” (Nkabinde 1985, 1988) from its subcategorised position. This seems to be the case with examples (23)-(26). This is supported in Rizzi (1995) who calls the object marker that appears in the verbal complex a resumptive clitic which is used as a “last resort strategy” (see Shlosnky 1992 for similar arguments in Palestinian), i.e. a strategy that is used when movement fails to yield a grammatical output. Thus resumptive pronouns occur in the absence of movement. The assumption is that resumptive pronouns are never freely generated. Their distribution has been proposed to be universally regulated by the principle of last resort considerations (Shlosnky 1992)⁵.

As last resort strategies, resumptive pronouns occur as a saving device for an otherwise ungrammatical derivation and their distribution is limited to where movement is blocked. Arguably, in Zulu movement of the object to other positions in the sentence is blocked. Hence last resort strategies have to be used in order to avoid generating ungrammatical sentences. In fact, without the Agr0 morpheme/resumptive pronoun si, examples (23-26) would be ungrammatical. However, note that in examples (21-22) where all the VP constituents are in their base positions, si is excluded. Why is the resumptive clitic/Agr0 not present in (22)? In examples like (22) the subject is postposed or adjoined to the VP (see Ouhalla 1994 for Italian). In this case, it is assumed that although movement has occurred it is not the object of the sentence that has moved. The resumptive clitic only becomes obligatory if the object has been moved from its subcategorised position.

⁵ As will be established in 5.2.4.2 this explains why movement in Zulu violates subadjacency and the ECP.

What needs to be emphasised about Zulu structure is that the VP in Zulu, and other Bantu languages in general, is the 'locus of a number of linguistic processes ranging over...morphological, syntactic as well as semantic'(Mchombo 1993) ones. The verbal unit is a complex linguistic structure due to the amount of morphosyntactic information it encodes (see 27). It consists of a verb stem (e.g. -dl- in 27) and this verb stem can support several affixal elements either in the form of prefixes or suffixes. Among the prefixed elements are tense, negative⁶, mood and agreement markers. Tense and the subject agreement marker which cliticise to the verb are always the obligatory constituents within the complex verbal structure. Among the optional elements are mood, and the element that is designated the object marker or AgrO, which agrees with the object argument. As stated, AgrO only becomes obligatory if the object occupies any other position other than its subcategorised position, i.e. immediately post-verbal.

While the above consist of the basic elements of the verbal unit in Zulu, the verbal unit also supports a number of other suffixes, most of which appear to be associated with grammatical function or phenomena that changes argument structure (Alsina & Mchombo 1990; Baker 1988a, b). Among the suffixes associated with such grammatical processes are passivization, causativisation, applicatives, statives and interrogatives. For example, in (27)⁷ the verbal unit carries grammatical properties of causativisation and an interrogative.

27. Umdliseni?

U m dl is e ni?

AgrS- AgrO-V- Caus-Tns-Q?

You Him/her-eat-caus-Past-what

(What did you make him eat?)

⁶ The Neg. morpheme can also appear as a suffix (see 33).

⁷ In descriptive Zulu grammars (33) is referred to as a "one word sentence" or a "verb sentence".

Recent studies in Bantu linguistic structure provide evidence that the verbal unit has a hierarchical organisation in which the verb radical (e.g. dl in 27) and suffixes (e.g. is, e and ni in 27) form a unit (Omar 1990; Mchombo 1993; Akinlabi 1995). This organisation of elements in the VP complex is also evident in Zulu. For instance, in Ouhalla's (1991a) analysis of functional structure, it could be said that because Agr consistently appears outside Tns, Agr c-selects Tns hence Zulu displays the following organisational order of morphemes in the VP complex⁸: as shown in (28) Zulu has AgrS-Tns-[AgrO], AgrS-Asp-[AgrO] as in (29), AgrS-Asp-Tns-[AgrO] (see 30) and Neg-AgrS-Tns-[AgrO] as shown in (31).

28. Bazokuyithenga.

Ba zoku yi thenga

(AgrS-Tns- AgrO-buy)

(They will it buy)

(They will buy it)

29. Usethengile.

U se theng ile

(AgrS-Asp-buy-Perf)

(S/he has bought it).

30. Usezokuthenga

U se zoku thenga

(AgrS-Asp- Tns- buy)

(S/He is just about to buy it).

⁸ Speas (1991) and Plunkett (1993) argue that morpheme order is not a very strong diagnostic for head position within the syntactic tree.

31. Asisezukuthenga

A si zuku thenga

(Neg-AgrS- Tns- buy)

(We will no longer buy it)

The appearance of Neg with respect to Agr and Tns differs cross-linguistically along typological lines. While in languages like English and Turkish Neg appears inside Agr and Tns as in (32) for English, Neg appears outside Agr in Zulu. But the realisation of Neg and Asp are far much more complex than what has been shown in (31). In fact, in Zulu double negatives are also possible as shown in (33).

32. Mary does not like bread.

33. Asisathenganga.

A si sa thenga nga

(Neg-AgrS-Asp- buy- Neg)

(We no longer bought it)

Following recent developments in syntactic theory, it can be argued, following Belletti (1990), Chomsky (1989), Sportiche (1988) and Demuth & Gruber (1995), that the basic IP structure of Zulu is one where the subject Agr is a function head and thus undergoes Spec-head agreement with the lexical subject that is raised from a VP-internal position. The verb raises to the head of VP to 'collect' tense and then it moves to Agr. Consequently, a simple Zulu IP structure for UBongi uzopheka ukudla 'Bongi will cook food' can be represented as in Figure (8).

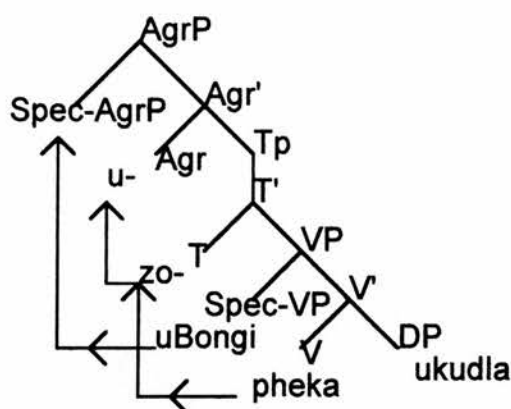


Figure 8: Structure of a simple IP in Zulu.

To conclude: although Zulu is SVO, it is not rigidly SVO hence it allows instances of pragmatic information-imparting protocols which readily predominate formal syntactic considerations (Nkabinde 1988). It is this syntactic flexibility in Zulu that renders other word orders, other than SVO, possible. Thus Zulu, unlike English, allows all the six Greenbergian word order possibilities. This word order flexibility is not allowed in English. In the next section we examine the pro-drop parameter and its realisation in Zulu grammar. Specifically, the section deals with the occurrence of null arguments in Zulu.

5.1.2 Null Arguments

Zulu is a pro-drop language. As is well known, the phenomenon of pro-drop relates to the ability in languages to have null arguments in the subject position of finite clauses. The pro-drop parameter is associated with the following cluster of properties: null subjects, free inversion and lack of *that-trace* effects (Rizzi 1982). Languages differ in terms of whether they instantiate all these properties or not. The phenomenon of pro-drop is generally associated with languages with a very rich Agr system.

Zulu has a very rich agreement system hence it allows lexical subjects to drop because their content can be recovered from the obligatory subject Agr morpheme on the verb. For

example, in (34a)-(36a) the underlined element encodes the feature-content of the lexical subject.

33a. Abafundi ba- phuz- a utshwala.

students 3pl- drink- Asp beer

(The students are drinking beer)

34b. Abafundi Agr [_{VP} [_V phuz-a] [_{NP} utshwala]]

35a. Amaphoyisa a- boph- a isela

police 3pl- arrest-Asp the/a thief

(The police are arresting a thief)

35b. Amaphoyisa Agr [_{VP} [_V boph-a] [_{NP} isela]]

36a. Indoda i- lungis-a imoto

the/a man 3sg fix- Asp the/a car

(The man is fixing a car)

36b. Indoda Agr [_{VP} [_V lungis-a] [_{NP} imoto]]

In Zulu the presence of lexical subjects and objects are made redundant by the agreement features which are overtly encoded in the Agr element within the VP (see 34-36). The pro-dropping of a lexical subject is allowed where the content of the dropped element is recoverable from an overt Agr element. Zulu on the other hand, has an overt object agreement morpheme only if the object is no longer in its subcategorised position⁹. Null pronominal objects in Zulu are not possible in the absence of overt object agreement. In Zulu an embedded null object can be coreferential with the matrix subject and thus behaving exactly like a pronoun as shown in (37).

⁹ In some varieties of Zulu, an overt object agreement morpheme may be used together with the object in its subcategorizes position only for purposes of emphasis.

37. UThemba_j uthe uBusani um_jbonile *pro*_j.
 UThemba_j u the uBusani u m_j bon ile *pro*_j
 (Themba_j AgrS-say Busani AgrS-AgrO_j-see- Perf *pro*_j)
 (Themba said Busani saw him).

In addition, Zulu, like all other pro-drop languages does not exhibit the that-trace effect. For instance, in (38) below the subject is extracted out of an embedded clause introduced by the complementizer *ukuthi* (that).

38a. U shi lo *ukuthi* u Bongi u se shay ile
 (You -say-Tns *that* AgrS-Bongi AgrS-Asp-phone- Perf)
 (You have said *that* Bongi has phoned)

38b. Ngu ba ni a shilo [CP [C' [C *ukuthi* [IP *pro* [VP [v shayile]]]]]]?
 it be who that-say *that* phoned
 (Who did you say has phoned?)

In English the presence of *that* leads to ungrammaticality because the that-trace effect involves the violation of the ECP.

Summarising: Zulu is a pro-drop language. It has a very rich AGR system. Both null subjects and null objects are permitted in Zulu because their feature content can be recovered from the object or subject marker in the verbal complex. In the following section we examine the structures under investigation, i.e. tensed C and topicalization. We start by a general characterisation of the structure of CP in both languages.

5.2. General CP Structure

In chapter 2 it was established that in English while *that* and *that-less* clauses are CP structures, they are generated under different C-heads. This observation led to proposals of a Split-CP analysis of the C-system in English. Similarly, in Zulu the C-system is split

into several multiple heads. In the following sections we focus on how the CP-layer is iterated in both languages. First, we examine the general aspects of the C-system in both languages.

5.2.1 CP Structure for Zulu and English: A Split-CP Analysis

From a structural point of view, both English and Zulu have a split-CP. In English the traditional CP node is split into a CP with a TopP embedded under it. The CP structure for Zulu and English is shown in Figure (9).

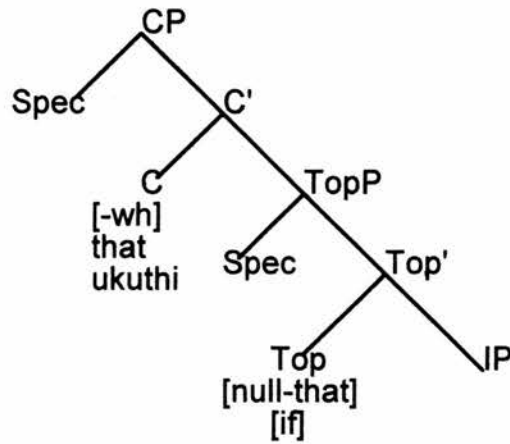


Figure 9: A Split CP in Zulu and English.

In the section that follows we describe the specific details of the realisation of the CP layer starting with Zulu.

5.2.2 A Split-CP for Zulu

In Zulu there is special morphology for declaratives, questions, relatives, etc. The Zulu C-system has three C^0 heads to the extent that a Split-CP analysis of the Zulu CP layer is a necessity. The three C^0 heads are, a sentence-final particle C^0 (see Gasde & Paul 1995 for a similar phenomenon in Chinese)¹⁰, an expletive C^0 (cf. Shlonsky 1988, 1992, 1994;

¹⁰ A sentence final particle C^0 is used to indicate sentence-types, i.e. whether the sentence is a yes/no question or a wh-question. For instance in Zulu, the sentence final particle ni indicates a wh-question while na indicates that the question is a yes/no question as shown below;

Penner & Bader 1995; Müller & Penner 1996; Zwart 1993) found exclusively in “disguised copular constructions” and the subordination or tensed C. The realisation of these three different C-types accounts for an array of subtle structural differences in the language that do not appear to be amenable to a single complementizer analysis.

Although there are three different types of C heads in Zulu we will only compare and contrast the realisation of tensed C and TopP in Zulu and English. Sentence-final particle C^0 and expletive C^{11} are not instantiated in English and thus these two functional

a) U funa ni?

(You want what)

(what do you want?)

b) U ya dla na?

(You are eat Particle)

(Are you eating?)

Sentence final particles are also evident in Chinese where de is used in declarative sentences, ma for yes/no questions while ne occurs in wh-questions. For instance in Chinese,

(c) Ni wen shei ne?

(You ask who)

(Whom did you ask?)

(d) Ni qu ma

(You go there)

(Did you go there?) (Gasde & Paul 1996:265-266).

¹¹ Müller & Penner (1996) state that INFL features in the subordinate COMP are spelled out as the expletive complementizer. In Zulu expletive C^0 is used in the derivation of relative clauses of all sorts, clefts and wh-questions. In (i) the relative clause **umfana odle amabhontshisi** ‘the boy who ate beans’ the base generated C^0 (which in Zulu is a) coalesces with the Agr or INFL features to form the portmanteau morpheme o (expletive that). The resultant portmanteau morpheme consists of a bare C^0 and Agr. This principle applies in both clefts (ii) and wh-questions as in (iii).

(i) Umfana (**a+u**)dle amabhontshisi.

Umfana (C+**Agr**)dle amabhontshisi.

(Umfana o dl e amabhontshisi).

(a\the boy that eat-Tns a/the beans)

(ii) Ngumfana (**a+u**)dle amabhontshisi.

(Ngumfana (C+**Agr**)dle amabhontshisi.

(Ng umfana o dl e amabhontshisi.

(It is a\the boy that eat-Tns a/the beans).

categories are irrelevant to the main question in this investigation, i.e. the question of the extent to which L1 specified functional structure forms part of the L2 initial mental representation.

5.2.2.1 Functional Heads under CP: C and Top

Zulu, just like French and Spanish, has an obligatory declarative complementizer which has the specification of force. Declarative complementation or tensed C is marked by overt morphology in the form of a lexical complementizer *ukuthi*. As stated, *ukuthi* is a CP-type C. In Zulu *ukuthi* is obligatory as a complement of V (see 39), A (see 40), in Verb-Object-Complement clauses (see 41) and in a dislocated position (42 and 43).

(39). *Complement of V*

UJohane u cabanga ukuthi/*0 uThoko u yi siphukuphuku.

(a/the John AgrS-think that/0 a/the Thoko AgrS-be-dunce)

(John thinks that/0 Thoko is a dunce.)

(40). *Complement of A*

UThoko u qinisekile ukuthi/*0 ingane zi ntshontsh e amaswidi.

(a/the Thoko AgrS-certain that/0 a/the children AgrS-steal- Tns a/the sweets)

(Thoko is sure that/0 the children stole the sweets)

(41). *Verb-object-Complement Clauses*

Ku-mele si khombise imantshi ukuthi/*0 loku ku qondile.

(We must AgrS- show a/the magistrate that/*0 this AgrS-correct)

(We must show the magistrate that/*0 this is correct)

iii) Ngubani (a+u)dle amabhontshisi?

(Ngubani (C+Agr)dle amabhontshisi?)

(Ngu-ba ni o dl e amabhontshisi?)

(It be who that eat-Tns a/the beans?)

(Who ate the beans?)

(42). *Sentential Subject*

Ukuthi/0 u se theng e imoto ng a manga.

(That/*0 AgrS-Asp-buy- Tns a/the car it-be-lie)

(That/*0 she has bought a car is a lie)

(43). *Extraposition*

Ukuthi/*0 u sa khangele, cha a nga zi.

(That/*0 AgrS-Asp-awake, no Neg- I- know)

(That/*0 she is awake, I really don't know)

In (39-43) the lexical complementizer *ukuthi* is obligatory in Zulu¹². In consequence, complementizer-less sentences are all ungrammatical in Zulu. In contrast, English allows both *null* and *overt that* as a declarative complementizer. However, because a null complementizer is not allowed in a dislocated position, English, just like Zulu, does not allow *null that* in a dislocated position. To summarise: in the realisation of tensed C Zulu allows a subset of the sentences allowed in English complementation. Zulu allows for an obligatory lexical complementizer for declarative complementation while English allows for an additional optional deletion rule wherein the lexical complementizer *that* is deleted to yield *that-less* clauses.

While Zulu instantiates a Split-CP it would seem that TopP is not instantiated in the language. Recall that in chapter 2 we outlined the distribution evidence for both CP and TopP. It was established, on the basis of the data from English, that Top-type C clauses (*null-that* and *if*) can be complements of V and A. In addition, Top-type C clauses cannot occur in verb-object-complement clauses and in dislocated positions such as tensed sentential subjects. While it has been shown that Zulu instantiates CP-type C, it does not instantiate *null-that*. Evidence for a TopP projection in Zulu (if it exists) can only come

¹² See du Plessis (1989a, b; 1990) for the distribution of the lexical complementizer *ukuba* in Xhosa. The points raised for the realization of *ukuba* in Xhosa are true for the realization of the lexical complementizer *ukuthi* in Zulu.

from the distribution of **ingabe** 'if'. In other words, if TopP is instantiated it should be possible to have **ingabe**-clauses in the positions identified above. However, as can be seen in the examples in (44) below all **ingabe**-clauses are ungrammatical whereas the **ukuba**- 'whether' clauses (which we identified as CP-type C) are grammatical. This seems to suggest that TopP is not projected in Zulu.

44.

(a) Ngi ya zi buza **ukuba/*ingabe** u se vukile.

I-Tns-AgrS-ask **whether/if** AgrS-Asp-wake up

(I wonder whether/if he is awake)

(b) A ngi na qiniso **ukuba/*ingabe** u se vukile.

Neg-I-Asp-sure **whether/*if** AgrS-Asp-wake up

(I am not sure whether/if he is awake)

(c) Kumele si phendul e umbuzo **wokuba/*ingabe** loku ku qondile.

Must AgrS-answer-Tns a/the question **whether/*if** this be-correct

*(We must answer the question whether/*if this is correct)*

(d) **Ukuba/*ingabe** u se vukile a kulona iqiniso.

Whether/*if AgrS-Asp-wake up Neg-it a/the truth

*(Whether/*if he is awake is not certain)*

(e) **Ukuba/*ingabe** u se vukile, cha a nga zi.

Whether/*if AgrS-Asp-wake up, no Neg-I- know

*(Whether/*if he is awake, I don't know)*

(f) A ngi qinisekile ngoba be ngi nge kho, **ukuba/*ingabe** u se vukile.

Neg-I-certain because Asp-I-neg-present **whether/*if** AgrS-Asp-wake up

*(I am not sure because I have not been there, whether/*if he is awake.)*

The above examples suggest that Zulu does not c-select TopP although it does c-select CP.

5.2.3 Topicalization: Movement Topics in Zulu

Zulu exhibits a wide range of topic structures as compared to English. There is evidence that in Zulu topicalization is by means of both movement and non-movement¹³. The examples of movement and non-movement topics is in the topicalization of objects. As stated, when an object has been moved from its subcategorized position an Agr0 morpheme appears in the VP complex. In the case of topicalizing an object, two possibilities arise. First, as shown in (45) one sentence (45b) does not have an Agr0 suggesting that the topic NP *incwadi yakho* 'your book' has been base generated in situ. However, in (45c) an Agr0 morpheme *yi* appears in the VP complex suggesting that the object has been moved from its subcategorized position. In fact, Rizzi (1995) (referring to Standard Italian) points out that "if the topicalized constituent is the direct object, the resumptive clitic is obligatory" (1995:8). These examples (cf. the English examples in 52) suggest that in addition to base-generation, some topic structures are derived through movement in Zulu.

45a Ubonikeza *incwadi yakho* uThemba
(You should give *your book* to Themba)

45b *Incwadi yakho*, ubonikeza uThemba.
(*Your book*, you should give to Themba)

45c *Incwadi yakho*, uboyinikeza uThemba.
(You book, you should give it to Themba)

¹³ Huang (1984a, 1984b, 1987) makes similar observations about Chinese.

Since Zulu does not seem to have a TopP projection, it is possible that in the case of topics derived by movement, the topic phrase is moved into Spec-CP position and is locally construed with a null operator which links the topic and the comment. Since movement takes place as a result of a morphological requirement of strong features located under a functional head, it follows that the strong abstract <+Top> features motivate the movement of the topic phrase to Spec-CP position (cf. Radford 1997).

To summarise: Zulu permits topicalization by movement in some topic structures. Zulu also has topic structures that are derived through non-movement and we discuss their derivation in the next section.

5.2.4 Base-generated Topics

A large number of topic structures in Zulu are derived by base generation (see Trèvisé 1986 for French base-generated topics; Yuan 1995; Gasde & Paul 1996; Green 1996 on Chinese base-generated topics). There are two types of base-generated topics in Zulu. There are in-built or non-gap topics which are base-generated in Spec-CP. There are also pseudo-gap topics where the topic is coindexed with an empty category or a gap in the main clause. Pseudo-gap topics are also base-generated in Spec-CP. The difference between in-built and pseudo-gap topics is that in the former there is no gap while in the latter there is a gap coindexed with a topic.

5.2.4.1 In-built Topics

In-built topics are those topic structures where the topic exists independently of the verb. The topic phrase does not need to be an argument of a predicative constituent in a sentence. For example, in sentences (46) and (47) the topics “*Abantu bomndeni wakubo*” (People in her family) and “*lencwadi*” (this book) are both unrelated to the elements in their respective VPs in that “the topic does not represent a subcategorised complement of the predicate” (Yip & Matthews 1995:22) (with reference to Chinese).

(46). *Abantu bomndeni wakubo*, ngazi unina yedwa.

(*People of her/him family*, I know mother only)

(**People of her family*, I know her mother only)

(47). *Lencwadi*, inhlanhla kusasa ngizobe nginesikhathi.

(*This book*, luck tomorrow I will I have time)

(**This book*, luckily tomorrow I will have time)

In-built topics are ungrammatical in English as can be seen from the translations of the Zulu topics. However, English also allows in-built topics introduced by a pre-expression such as “speaking of, as for, for” (Kaplan 1993; Yuan 1995, Green 1996). Although using a pre-expression such as *ku* ‘of’ (see 48a) or *njenga* ‘as for’ (see 48b) in Zulu does not render the topic totally unacceptable, it makes it stylistically “heavy” and redundant to the extent that some native speakers reject it out rightly. Hence examples (48a) and (48b) are considered to be “marginal” sentences in Zulu.

(48a). *Ku*abantu bomndeni wakubo, ngazi unina yedwa.

(*Of* people of family of his/hers, I know mother only)

(*Speaking of* people in her family, I only know her mother)

(48b). ? *Njenga*lencwadi, inhlanhla kusasa ngizobe nginesikhathi.

(*As for* this book, luck tomorrow I will I have time)

(*As for* this book, fortunately tomorrow I will have time).

To recapitulate, the occurrence of in-built topics in English is rather restricted although these occur freely in Zulu.

5.2.4.2 Pseudo-Gap Topics

In addition to in-built topics, Zulu also permits pseudo-gap topics. In pseudo-gap topics there is a gap or an empty category in the sentence which corresponds to the topic. Although the topic is coindexed with the gap, the gaps are not derived by movement as

they occur in environments where movement is syntactically impossible. For example, in (49ii) the empty category *e* is inside a sentential subject, while in (50ii) it is inside a wh-island and in (51ii) it is inside an embedded clause and all these are islands to movement (White 1988a).

- (49i) *Ukuthi lesisiduphunga siphumelele ezifundweni zaso* kwethuse iningi.
 (That this stupid boy succeeded in his studies/passed exams of his surprised many)
 (That this stupid boy succeeded in his studies surprised many people)

- (49ii) *Lesiduphunga somfana, ukuthi e_j siphumelele ezifundweni zaso* kwethuse iningi.
 (*This stupid boy_j, that e_j succeeded in his studies/passed his exams surprised many people).
 (*This stupid boy_j, that e_j succeeded in his studies surprised many people).

- (50i) Ngifuna ukwazi ukuthi uzolithengisa nini *lelikalishi*.
 (I want to know that you will sell when *this cart*.)
 (I want to know when you intend selling *this cart*).

- (50ii) *Lelikalishi_j* ngifuna ukwazi ukuthi uzolithengisa nini *e_j*.
 (**This cart_j*, I want to know that you will sell when *e_j*.)
 (**This cart_j*, I want to know when you intend selling *e_j*.)

- (51i) Angisakhumbuli ukuthi *leyangane* ihlala kuphi.
 (I cannot remember that *that child* stays where)
 (I cannot remember where *that child* stays).

- (51ii) *Leyangane_j* angisakhumbuli ukuthi *e_j* ihlala kuphi.
 (**That child_j*, I cannot remember that *e_j* stays where)
 (**That child_j*, I cannot remember where *e_j* stays).

The above topics (49ii, 50ii, 51ii) violate subadjacency. Subadjacency forbids extraction from within islands such as sentential subjects (49i), wh-islands (50i) and embedded clauses

(51i) (Chomsky 1977, White 1988a). If the topics in the above examples are derived by movement then their grammaticality is unexpected. The grammaticality of the above Zulu topic sentences suggests that topicalization is not derived by XP movement in these particular examples. Topicalization in Zulu, whether in the form of in-built or pseudo-gap is strictly by base-generation. The grammaticality of the above examples suggests that in these particular examples subadjacency is irrelevant. But as the equivalent sentences in English indicate, these are ungrammatical because topicalizing elements inside islands violates subadjacency; a movement principle which is active in English.

In summarising: it has been stated that an analysis that allows for the iteration of the traditional CP node into several multiple heads best captures the Zulu CP-layer. While three C⁰s were identified, only tensed C and TopP were discussed as these are the subject of our enquiry. Regarding the projection of tensed C, it has been established that Zulu has a CP-type C head and thus, for sentential complementation, Zulu has an obligatory subordination complementizer *ukuthi* which has a declarative force and selects finiteness. Since CP-type C is allowed as a complement of V, A and in verb-object-complement clauses and in sentential subjects, *null ukuthi* is disallowed in these structures in Zulu. It has further been established that Zulu does not instantiate a TopP projection. Regarding the realisation of topics, there are two ways of generating topics. Topics can be base-generated or derived through movement. In Zulu the occurrence of movement topics is restricted. In contrast, the topic in English is not base-generated. It is strictly derived through movement.

5.3. A Split-CP in English

As stated, both *overt* and *null that* are independent heads occupying different positions within the CP layer in English. It has been established that *overt that* is a CP-type while *null that* is a Top-type C head. It has also been stated that English, unlike Zulu, instantiates both CP-types in declarative Comps. Both CP-types have a declarative force and select finiteness (see chapter 2 for details of English split-CP).

Just like in Zulu when clausal complementation is by means of a CP-type C then there is a lexical complementizer which introduces the subordinate clause. On the other hand, when complementation is by means of a Top-type C, then the subordinate clause is a *that*-less clause. Thus for complementation, English allows both *that* and *that-less* clauses. In contrast, in Zulu *ukuthi* clauses are obligatory for complementation while *ukuthi-less* clauses consistently yield ungrammaticality.

Thus English, by virtue of projecting both CP-type C and Top-type C has two ways in which complementation is realised. Declarative subordination may be derived by means of an overt or phonologically filled lexical complementizer *that*. Unlike in Zulu, it can also be realised by means of a null complementizer. This suggests that Zulu manifests a subset of English complementation. English as a superset grammar generates all the complement sentences permitted in Zulu and others that are not.

5.3.1 Topicalization in English

There are differences in the derivation of topic sentences between English and Zulu. In English, unlike in Zulu, a topic has to strictly undergo a process of topicalization which is an XP movement process similar to *wh*-movement in *wh*-question formation and relativisation (Chomsky 1977, Farghal 1996). For example, in (52a) below the topic phrase *your book* has been moved from its subcategorised position to the front of the sentence as in (52b) (cf. with Zulu in 45b). Similarly, in (53a) the topic phrase *this level of stupidity* has been moved to the front of the sentence as shown in (53b). In both cases the derivation of the topic is by means of XP movement.

(52a). You should give *your book* to Paul (not to Bill).

(52b). *Your book*_{*j*}, you should give *t_j* to Paul (not to Bill). (Rizzi 1995:4)

(53a). We cannot tolerate *this level of stupidity*.

(53b). *This level of stupidity*_{*j*}, we cannot tolerate *t_j*.

In English three possibilities of deriving a topic have been proposed. In the three analyses, it is indisputable that the phrase that is being topicalized has to undergo a movement process. However, there are differences regarding the landing site of the moved constituent. First, it is assumed that topicalization involves moving the phrase that is being topicalized into the specifier position of a CP whose head C contains a null Top(ic) particle as shown in Figure (10). The topic is in Spec-CP position. The topic is viewed, more or less, like a wh-phrase in simple direct questions.¹⁴

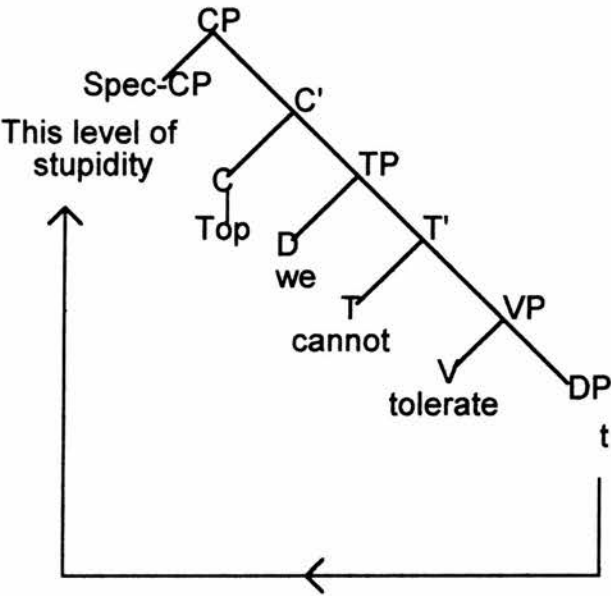


Figure 10: Topic Phrase moved to Spec-CP.

The first analysis assumes that topic clauses are CPs headed by a functional head C which contains an abstract topic affix <Top> which has strong head-features and a <Top> specifier feature. This specifier feature indicates that a topicalized constituent is required as its specifier. Since movement occurs to fulfil morphological requirements of a functional head, movement of the DP to Spec-CP checks off the <Top> specifier-feature of C.

Grimshaw (1993) suggests another possibility for the derivation of topics in English. In Grimshaw's account topicalization involves adjunction of a phrase that is being

¹⁴ See Rochemont (1989) and Bowers (1976) for similar proposals on English topicalization.

topicalized. The topic phrase is adjoined to the T(ense) P(hrase) as shown in Figure (11). The TP is expanded into an “extended” TP projection.

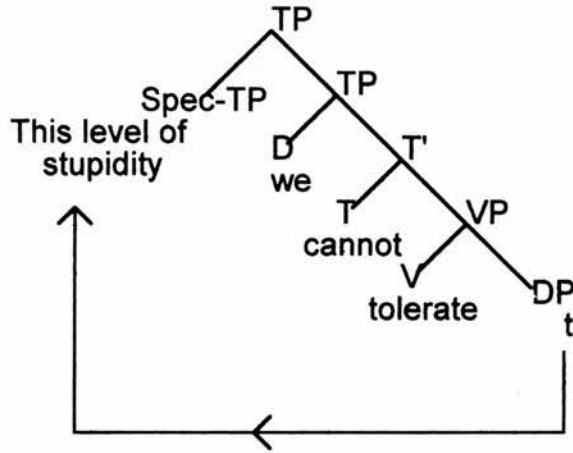


Figure 11: Topic Phrase adjoined to Spec-TP.

In Grimshaw’s account topicalization involves adjunction wherein one maximal projection is adjoined to another. Thus an adjunction operation of the topicalized XP leads to the formation of “a split-segment category” (Radford 1997:313), or in Grimshaw’s own terms “an extended projection”. In other words, the projection is a TP node which consists of two TP segments.

The third and final possibility in English is similar to the first although there are subtle differences. The topicalized phrase moves into the specifier position, within a TopP constituent which is headed by a null Top particle (Radford 1997). The derivation would be as shown in Figure (12).

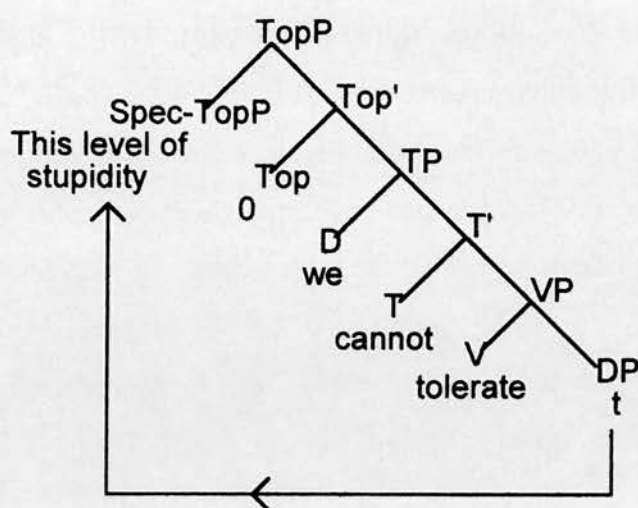


Figure 12: Topic Phrase moved to Spec-TopP

On the basis of the three analyses of topicalization described above, it is clear that topicalization in English involves a movement operation. Secondly, it is also evident that it is movement to a specifier position although a question that remains unanswered is to which Spec-position? Is it the Spec-CP as suggested in the first analysis or Spec-TP as in Grimshaw's account or is it Spec-TopP? Specifically the question is; what is the optimal derivation of topics in English?

Radford (1997) and Rizzi (1995) argue in favour of the last analysis. They argue that once the CP in English is iterated, then the topic phrase is moved to the Spec-TopP rather than the Spec-CP position. Since movement is driven by the strength of morphological features, it is then suggested that in English the functional head Top has strong $\langle +\text{Top} \rangle$ features which force the movement of the topic phrase to Spec-TopP so that the strong topic features are checked off.

In English a topic phrase has to undergo a process of XP movement, and as Chomsky (1977) states, XP movement obeys subadjacency. In consequence, topicalization in English induces "subadjacency-like" effects (Rochemont 1989; Culicover 1991; Lasnik & Saito 1992). In consequence, elements inside islands (sentential subjects, wh-islands, embedded clauses or relative clauses) cannot be topicalized in English as this would be a violation of

the island constraint (Haig 1996; Rochemont 1989). This is supported in the English translations of the Zulu topic structures given in (5.2.4.2). Topicalization in English is not possible from inside islands as this would be a violation of the subjacency constraint; yet in Zulu because subjacency is irrelevant in the particular examples given, topicalization is possible from inside islands because these topics are not derived through movement.

The comparison between properties of tensed C and topicalization in English and Zulu can be summarised in table (2) and (3) below.

Table 2: Summary of properties of tensed C in Zulu and English

	TYPE OF COMP	
	Null Complementizer	Overt Complementizer
English	+	+
Zulu	-	+

Table 2 shows that English is a superset grammar in as far as complementizer selection is concerned. Zulu complementation is therefore contained within the grammar of English.

Table 3: Summary of properties of topicalization in Zulu and English.

	TOPICALIZATION		
	Movement	Base-Generation	
		In-built	Pseudo-gap
English	+	-	-
Zulu	+	+	+

Table 3 shows that topicalization is more inclusive in the Zulu grammar than in English.

5.4. Implications for ZSLA

It has been shown that with respect to complementation, the grammar of English is more inclusive and it allows all the complement sentences permitted by the Zulu grammar and others that are not. Zulu only allows a subset of the complement sentences allowed by English tensed C. From a learnability point of view, if the L1 is more inclusive than the L2 the L2 learner will not have direct positive evidence in the L2 input to enable the restructuring of the L1-like initial state grammar. Learning difficulty is thus expected as the learners are likely to overgeneralize. As White (1989a, b) states, this scenario leads to the prolongation of the restructuring phase in the developing grammar as the input data needed for restructuring the ILG is not readily available (see 3.1.3.1).

However, Zobl (1988) and Sharwood-Smith (1990) state that L2 learners can still have access to “subtle” and “indirect” positive evidence which is only accessible to learners at very advanced levels of proficiency. This creates the potential for the development of two different types of knowledge representations at ultimate attainment. First, there is a likelihood that fossilisation will occur leading to an incomplete knowledge representation. Alternatively, very advanced learners may have access to “subtle positive evidence” which will lead to parametric resetting and a convergent representation at ultimate attainment. It would seem that since Zulu does not instantiate TopP, the only potential “subtle positive evidence” for very advanced English speaking learners of Zulu would be **ukuba** ‘whether clauses whose distribution is similar to that of **ukuthi** ‘that’-clauses.

Table 3 shows that with respect to topicalization, Zulu is far much more inclusive than English. The grammar of Zulu allows all the topic structures permitted by the grammar of English and some that are not. Zulu allows (although marginally so) topics introduced by a pre-expression. It also allows a restricted set of topic structures derived through movement. These two topic forms are also permitted by the grammar of English. Zulu also has base generated topics in the form of in-built and pseudo-gap topics. These are not allowed by the grammar of English. Because Zulu permits both movement and non-

movement topics, Zulu positive evidence presents the learner with conflicting parameter settings for topicalization (i.e. if we assume that parameters have binary values).

Learnability considerations therefore raise the following issues: if the TL grammar is more inclusive than the learner's L1, then direct positive evidence in the TL input data can indicate to the learner that the L1 grammar is incompatible with the grammar of the L2 with respect to the particular syntactic structure under consideration. In fact, van Buren and Sharwood-Smith (1985) state that in such cases, on exposure to TL input data, the learner is confronted by positive disconfirmation in that the TL input indicates to the learner that the L1 and the L2 grammar are incompatible. Thus the learner is forced to restructure the ILG. In this case change or the restructuring of the initial L1-like grammar is motivated. Acquisition is therefore expected to be much easier and rapid.

This scenario can be translated into the language of the UG-debate and the acquisition of Zulu base-generated topics would be viewed as an instance of parameter activation (i.e. of the non-movement parameter) which is much easier and proceeds at a faster rate than parametric re-setting (Uziel 1993). The acquisition of complementation is, on the other hand, expected to be difficult and to take a longer time because it involves parameter re-setting. However, because of the "apparency" condition (Green 1996) and Meisel et al's (1981) observations, the apparent similarity between canonical word order in English and Zulu may render the acquisition of both tensed C and base-generated topics much more difficult than envisaged. The similarity of canonical word order may lead to an initial misanalysis of the input which may affect later restructuring of the ILG.

To conclude, this chapter has provided a contrastive survey of the CP structure in both languages. Special attention was paid to typological issues with specific emphasis on Zulu word order. Zulu, just like English has an SVO canonical word order although it differs from English in that it allows other word orders that are not permitted in English. Thus, in terms of word order Zulu displays a superset of English word order. From a learnability point of view, this suggests that in the acquisition of Zulu native speakers of English will

not encounter any difficulty in acquiring aspects of Zulu related to word order as there will be a lot of evidence in the Zulu input that will indicate to the learner that Zulu is not exclusively SVO. It was established that Zulu freely drops subjects and that the subject is generally not an obligatory constituent of the sentence. In contrast, an overt subject is obligatory in English. Regarding tensed C and topicalization, it has been established that Zulu displays a rather restricted form of complementation in comparison to English while, on the other hand, it displays a fairly robust set of topic structures in comparison to English. In English topicalization is restricted to movement while in Zulu topic structures can be derived by both movement and non-movement.

While this chapter has described some of the areas of contrast between English and Zulu in the realisation of tensed C and topicalization, the next chapter is an outline of the experimental study and it describes the research hypotheses and the details of how the experiment was conducted.

Chapter 6

The Experimental Study

6.0 The Experimental Hypothesis

The main aim of this chapter is to give an outline of the experimental hypotheses of the study, the methods used and the procedures followed in conducting the experiment. First, a summary of the relevant points raised in the theoretical background to the study is provided. The purpose of this section is to set out the motivation for the experimental hypothesis and the predictions on the possible outcome.

6.1 Summary of Theoretical Arguments

1. Summary of SLA Arguments on Availability of Functional Structure

In chapter three (3.2.1) the empirical evidence presented on the status of FCs at the initial state suggests that the Full Transfer and Full Access (FT/FA) model is the most plausible theory of the initial state. Since L2 learners already have a fully formed functional projection system from their L1, on first exposure to the L2, the FT/FA model predicts that:

A. At the Initial State

(i). The initial state grammar shows a full conservation of L1 functional structure. Because the L1 final state constitutes the L2 initial state, L2 learners initially transfer the L1 functional geometry and all its properties to the L2. Thus L2 input data is initially analysed or assumed to be like the L1 grammar to the extent that the TL input data is misanalysed. Because L2 learners initially transfer the whole of the L1 functional architecture, acquisition is failure-driven and convergence in the TL grammar is not guaranteed. Thus;

(a) Positive evidence

(i) has to be salient enough to be noticeable to the learner.

(ii) maybe unnoticed because the L2 input is analysed on the basis of the L1 and thus leading to positive confirmation of the initial hypothesis that the L2 is like the L1. Alternatively, it might not be sufficiently salient.

(iii) needed for the restructuring of the ILG based on an L1 induced misparse might be different, difficult, not robust enough, obscure or rare.

(iv) which is sufficient in L1 acquisition to trigger the acquisition of a particular FC may not be sufficient in the L2 especially where the L1 and the L2 are in a nested superset/subset relationship.

(b) if the L1 functional structure constitutes a marked value while the TL is unmarked, learnability considerations may lead to a situation whereby L2 learners arrive at a different setting from that required in the TL grammar. Because adult L2 learners have access to UG, although the option chosen may not be like that required in the TL grammar, it will be UG-constrained.

(c) if the TL constitutes the marked value while the L1 constitutes the unmarked value, L2 learners will transfer the unmarked properties of the L1. L2 learners will be able to switch to the required marked TL form.

(d) if the L1 constitutes a superset of the L2, then there will be no positive evidence for the L2 learner to change the L1 parameter values.

B. At Subsequent stages

At subsequent IL stages, the FT/FA predicts that:

(i) optionality at intermediate stages as a result of grammar competition at the level of mental representation wherein the L1 knowledge system is in competition with the newly acquired L2 knowledge system (Montrul 1996, Sorace 1996b).

(ii) incomplete or divergent competence at ultimate attainment as convergence in the TL is not guaranteed. The nature of the ILG at ultimate attainment is, largely, determined by;

(a) the initial hypothesis formulated at the L2 initial state.

(b) subsequent hypotheses formulated after the revision of the initial hypothesis during the L2 acquisition process which may lead to overgeneralization of the input data.

(c) the nature of the primary linguistic data that learners are exposed to. If it is rare or obscure learners might wind up in local maxima.

2. Summary of Arguments from Theoretical Linguistics.

In chapter two it was established that:

(i) A grammar that lacks FCs is agrammatic in that there is a representational deficit at the level of syntactic computation.

(ii) Lack of phonetic content at the level of phonological realisation is not conclusive evidence for the absence of FCs in a developing grammar.

(iii) FCs can be projected without phonetic content. Thus complementation may exist independently of the acquisition of lexical complementizers.

(iv) There is a distinction between phonological underspecification and missing FCs. A morpho-phonologically underspecified functional projection implies that at the level of mental representation there is syntactic representation, but what is underspecified is the phonetic/phonological matrix of the functional head. A missing FC implies that there is a representational deficit at the level of mental representation.

(v) Early grammars (both L1 and L2) often do not show any overt production of lexical FCs as a result of “morphological avoidance”.

3. Summary of Contrastive Linguistic Arguments.

In chapter five it was established that:

(i) With respect to tensed C, English is a superset grammar. *Null that* and *overt that* are allowed as clausal complementation in English grammar. Zulu only allows an obligatory lexical complementizer for tensed C. Complementation in English is marked. From a learnability point of view, it should be difficult for native speakers of English to acquire Zulu complementation, i.e. they will have trouble with the obligatory nature of the Zulu lexical complementizer *ukuthi* ‘that’ in their English-Zulu ILG.

(ii) Zulu topicalization is a superset grammar in comparison to English topicalization. Zulu permits both movement and base-generated topics. Topicalization in English is strictly by XP movement which is subject to a subjacency constraint. Subjacency is irrelevant in the derivation of base generated topics in Zulu. There is a lot of positive evidence for native speakers of English learning Zulu topicalization to indicate that topics are base generated in Zulu. By allowing a restricted set of movement topics Zulu positive evidence provides conflicting parameter settings for native speakers of English learning Zulu topicalization.

(iii) In Zulu the topic and the subject NP are two distinct positions in the syntactic tree. While the subject NP can be freely dropped as its content can always be recovered by a rich Agr system in the language, a topic is always an obligatory constituent of CP. In

contrast, because English is a subject-prominent language, the subject is an obligatory constituent of IP and is in Spec-IP position.

6.1.1 Hypotheses

The theoretical arguments presented in the previous section prepare us for the experimental hypotheses of the study. The following general hypotheses can be made regarding the structures investigated in the study.

A. With respect to the acquisition of clausal complementation in L2 Zulu by native speakers of English, it is hypothesised that the acquisition of obligatory declarative complementizer insertion in Zulu will be late-acquired because English speaking Zulu Second Language (ZSL) learners do not have direct positive evidence in the Zulu input data to indicate that *null-that* is not possible in the TL.

B. Regarding in-built topics, it is hypothesised that it will be easy for ZSL learners who are native speakers of English to acquire in-built topics because learners are exposed to frequently occurring in-built topic structures in the input data.

C. With respect to pseudo-gap topics, it is hypothesised that for native speakers of English the acquisition of in-built topics is a precondition for the acquisition of pseudo-gap topics and thus to posit a base-generated topic position in their ILG they must have acquired in-built topics. It is hypothesised that learners will show an implication acquisition order, with the rejection of the pseudo gap sentence decreasing as the acceptability of the in-built topic without a pre-expression increases.

6.1.2 Extension of the Experimental Hypotheses

The main experimental hypothesis in the study is that the whole of the L1 grammar constitutes the L2 initial state. The assumption is that the initial state grammar will evidence a complete conservation of the L1 final state. In this section the experimental hypothesis is extended and attention is drawn to specific aspects related to the structures

being investigated. The main experimental hypotheses are followed by the null hypotheses which the study hopes to reject. Since the study is quasi-developmental, the hypotheses are presented under three headings: the initial state, subsequent “intermediate” development and ultimate attainment.

1. Initial State.

H₁: It is predicted that in very early L2 development, beginner learners will transfer L1 functional projections and thus the initial IL system will be characterised by L1-like specified functional projections. [H₀: Beginner learners will not transfer L1-like functional projections and the L2 initial state grammar will be characterised by missing FCs].

Because L2 learners initially analyse the TL input data using an L1 syntactic analysis, it is predicted that at the initial state:

(i) sentences which are consistent with syntactic properties of L1 functional structure which may be ungrammatical or dispreferred in the L2 will be accepted by beginner learners.

(ii) beginner learners will misanalyse the L2 input data in terms of what is permitted in their L1. Word order possibilities permitted in the L1 will be preferred in initial L2 acquisition.

H₂: It is predicted that adult L2 learners will transfer the L1 strength parameters into the L2 initial mental representation. [H₀: Beginner learners will not transfer the strength parameters in their L1. Their initial state grammar will be characterised by underspecification of the values of features under functional heads resulting in optional syntactic movement].

2. Intermediate/Subsequent Stages

H₃: It is predicted that due to restructuring of the initial L1-like grammar learners at subsequent stages will evidence optionality due to the ‘weakening’ of the L1 knowledge system in accounting for L2 input data. [H₀: There will be no optionality in subsequent IL stages].

3. Ultimate Attainment

H₄: It is predicted that L2 learners will not have obligatory *ukuthi* in their ILG clausal complements at ultimate attainment and the underlying grammar of near-natives will be incomplete. The realisation of tensed C in Zulu L2 would have piece-meal explanations which will be manifested by inconsistent judgements. The ILG will lack internal consistency and will bear a strong resemblance to the L1 grammar. [H₀: English speaking learners of Zulu will have clausal complementation with obligatory *ukuthi* in their ILG. At near-native level the underlying grammar of tensed C in Zulu L2 will be similar to that of native speakers. The near-native linguistic intuitions will be consistent and determinate].

H₅: It is predicted that English learners of Zulu will have base-generation of topics in their ILG. At near-native level the underlying grammar will match that of native speakers with regard to non-movement hence the underlying grammar at near-native level will be complete. The intuitions at near-native level will be consistent and determinate. [H₀: L2 learners do not acquire base-generation in the L2. They will retain the L1 value hence the underlying grammar will be incomplete at near-native level. The judgements of near-native speakers will be random and inconsistent].

6.1.3 Predictions

(a) With respect to the English native speakers’ acquisition of sentential complementation, the following predictions can be made:

In H₁ (i) we predict that the initial state system as represented by the beginner group will evidence transfer of L1 functional structure. With respect to complementation, native speakers of English will transfer both CP-type C and Top-type C. Beginner learners will;

(i) discriminate between Top-type C and CP-type C sentences by:

(a) accepting [+comp] sentences across complement types (a CP-type C grammar).

(b) accepting [-comp] as complement of V and A but rejecting it in verb-object-complement clauses (a Top-type C grammar like English).

(c) accepting [+comp] as sentential subjects (a CP-type C grammar).

(ii) Because of “morphological avoidance” in initial state grammars the necessity of the lexical complementizer *ukuthi* will initially be ignored. Hence beginner learners will:

(a) accept [-comp] sentences and “avoid” (i.e. reject) sentences with the lexical complementizer *ukuthi*.

H₁ (ii). We predict that learners will misanalyse the L2 input data due to the similarities in canonical word order between Zulu and English.

H₃. We predict that due to restructuring, intermediate grammars will be indeterminate and thus intermediate groups will not discriminate between grammatical [+comp] and ungrammatical [-comp] sentences in both *ukuthi* complement and *ukuthi* in subject position sentences.

(b) In the acquisition of base-generated topics, the following predictions can be made:

H₁. (i) We predict that in the acquisition of in-built topics, beginner learners will have determinate judgements and they will show a preference for an in-built topic introduced by a pre-expression over an in-built topic sentence without a pre-expression.

H₁ (ii). We predict that learners will misanalyse the L2 input data and because English is a subject-prominent language, the initial NP in in-built topics will be analysed as a subject NP. Hence in-built topics will be assigned a wrong structural analysis and will be initially analysed as IPs.

H₂. We predict that L2 learners make assumptions about the strength parameters of the L2. Native speakers of English learning Zulu will initially treat the relationship between the topic and the gap as one of movement. Therefore, beginner learners will reject the pseudo gap sentence and accept the sentence without a gap in early ILG.

H₃. We predict that intuitions of intermediate learners will be indeterminate. Intermediate learners will not discriminate between in-built topics with a pre-expression and those without.

In order to test these hypotheses an investigation of the nature of IL competence in the acquisition of the CP projection was carried out and acceptability judgements were elicited from English-speaking learners of Zulu.

6.2. The Experimental Design

In this section we describe the experimental design, the test instruments used and how the experiment was conducted. First, acceptability judgements which were used as test instruments are considered and we focus, mainly, on what acceptability judgements are and the controversy surrounding their use as elicitation instruments.

6.2.1 Test Instruments

While most of the research that has been done in the initial state debate has relied on production data (see Schwartz & Sprouse 1994, 1996; Vainikka & Young-Scholten 1994, 1995, 1996a, 1996b; Eubank 1994, 1995b, 1996; Lakshmanan & Selinker 1994; Haznedar 1997; Prévost 1997), in this study acceptability judgements were used as an elicitation instrument. It was reasoned that acceptability judgements are an indispensable elicitation tool in experimental studies especially those that take a generative perspective. However, a number of researchers object to the use of intuition data and raise a number of issues the most important of which relate to the *validity* and *reliability* of acceptability judgements as test instruments (cf. Tarone 1994). We shall examine these issues next.

6.2.1.1 Acceptability Judgements as Test Instruments

The use of acceptability (metalinguistic) tasks in SLA has its roots in the procedures used primarily by the Chomskyan generative grammarians who use this type of task in explaining primary language intuitions about the acceptability of specific structures (Leow 1996; Schütze 1991, 1996). From a theoretical point of view, the rationale behind using acceptability judgements is that these provide information about ungrammaticality. This intuitive perspective is evident in studies that have used the task in order to address hypothesis testing under the framework of UG (Bley-Vroman et al 1988, Lakshmanan & Teranishi 1994, White 1985a) and in markedness theory (Mazurkewich 1985, Tanaka 1987).

In an attempt at tapping underlying IL grammatical competence, SLA researchers working within the Chomskyan Generative school follow the same procedures as in L1 acquisition research and elicit acceptability judgements regarding possible/impossible structures in a given language. What needs to be emphasised is that Chomskyan methods of tapping linguistic competence are directed at primary language rather than non-primary language acquisition. This is due to the fact that the major concern of Chomskyan linguistics is *linguistic knowledge of a native speaker*. Grammar is therefore viewed as a reflection of

the native speaker's competence (Haegeman 1994). Hence Chomskyan methods of tapping linguistic knowledge are based on the assumption that grammar is a representation of the native speaker's internal linguistic knowledge (see 2.1).

However, what SLA researchers seem to side-line is that there might be a difference between the use of judgmental data and what it taps in L1 and in L2 acquisition. While in primary language acquisition native speakers are asked to judge sentences of their own language system in order to access information about the system underlying their language, the same cannot be said about L2 acquisition. In L2 acquisition learners are asked to make judgements about a language they are still struggling to acquire and at a point where their knowledge is still incomplete (i.e. a system still in a state of flux)¹. The question is: would production data be appropriate in tapping IL knowledge?

Coppieters (1987) claims that acceptability judgements are better able to reveal the underlying competence than spontaneous production data for a number of reasons. First, ILGs are generally incomplete systems and are constantly changing. In consequence, indeterminacy which is a property of ILGs (Adjèman 1976, Schachter et al 1976) can be captured. Because acceptability judgements are relative in nature they are able to capture the indeterminate nature of ILGs (Sorace 1988). In fact, Klein (1986) states that ILGs are characterised by "test" rules or critical rules which may lead to the co-existence of several different rules for a particular aspect of grammar in the learner's intuitions. This level of uncertainty and intermediate acceptability cannot be tapped in production data especially in naturally occurring data. Thus when several different rules co-exist for a particular aspect of grammar, production data is unable to capture the learners' intuitions with regard to each one of them. While the use of production data may be less problematic in tapping determinate knowledge (Gass 1994:306), it is unreliable in tapping indeterminate knowledge.

¹ This is also true for L1 acquisition especially when using truth value judgments.

Secondly, in production L2 learners often resort to avoidance strategies when faced with certain constructions that they have not fully mastered or acquired at a particular point in the developmental process (Schachter 1974). On the surface, the researcher might erroneously conclude that the linguistic structure in question has not been acquired when it has. Consequently, the exclusive reliance on spontaneous production data cannot give an indication of the knowledge underlying certain types of structures. On the other hand, the absence of a form at surface structure may not be evidence of lack of knowledge as the avoidance account suggests. As the avoidance account suggests; rather, as Gass & Selinker (1994) states, it may also be an indication that some aspects of language are less naturally occurring than others. This is often the case with structures that involve subtle aspects of language. Compare, for instance, agreement and long distance questions in a language like English. While contexts for agreement may occur much more frequently in unconstrained production (i.e. free speech), the same cannot be said of long distance wh-questions in English. Structures that involve very subtle aspects of language may thus be lacking in production data for other reasons other than the fact that the learner lacks knowledge of these. Hence absence of a form at surface structure easily lends itself to ambivalent interpretation. Perhaps, as Cook (1993:237) points out, production data can only provide a very "pale shadow of the learners' competence" because "inferences from performance to inferences about knowledge are not straight forward" (Stevenson 1992:81). Studies that rely on production data to support claims about competence "may be suggestive of an underlying competence... but they cannot be taken as definitive" (Juffs 1996b:153).

In addition, Ratwatte (1995) indicates that the use of production data blurs the differences between a "divergent" and an "incomplete" competence. According to Sorace (1996a), a divergent competence yields consistency in the production of non target-like forms while an incomplete competence shows variability or even random performance. Because in both instances, learners produce non-target like forms, the subtle differences in the mental representations of an incomplete and a divergent grammar cannot be captured by use of production data.

Finally, it has been emphasised that production data cannot capture the L2 learner's sensitivity to degrees of acceptability. Acceptability judgements can capture this because they incorporate the notion of "degree" (since they are relative). The implication of this is that acceptability judgements do not simply indicate an absolute rejection or acceptance of a structure. Instead, they indicate the degree of acceptability of structures in relation to one another. For instance, in the examples given below:

- (a) She jump over the fence.
- (b) Over the jump fence she.
- (c) You was jumping over the fence.

In an absolute judgement the above sentences would be rejected but this would blur the fact that although the three sentences are unacceptable, the (b) sentence, which violates the principle of structure dependency, is the worst or least acceptable while the (a) and (c) sentences are "marginally" unacceptable, perhaps because these breach a language-specific rule rather than a universal constraint. The importance of the notion of relative acceptability is that it describes why one option is better than the other rather than merely describing the difference between a grammatical and an ungrammatical sentence (Martohardjono 1993). The notion of acceptability therefore gives an indication of the more subtle and differentiated types of knowledge rather than the categorical distinction between grammatical and ungrammatical strings.

Therefore, the use of production data is viewed by some researchers as being very "messy" and thus researchers rely on intuition data in the form of acceptability judgements as elicitation instruments. Elicitation procedures are advantageous as these are "used to find out something specific about the learner's language" (Corder 1973:41). The rationale behind using elicitation procedures is that these tap a narrower range of linguistic knowledge than production data. Acceptability judgements achieve this because they are a

controlled experimental measure which aims at tapping specific aspects of knowledge (Cook 1993).

However, the use of acceptability judgements in tapping underlying competence has been questioned (Cowart 1997b). First, the argument is that linguistic competence is an abstraction and it cannot be represented in surface forms and utterances (Schütze 1996). This point is expressed very strongly in Gregg (1990). Gregg states that Generative L2 acquisitionists need to tease apart L2 learner data such that any L2 learner data derived from any other knowledge source, e.g., explicit knowledge the learner has of the L2 grammar, from that derived from implicit knowledge or competence. Gregg's point can be extended to the use of judgmental data in SLA by arguing that acceptability judgements can be used as elicitation tasks in non-primary language acquisition if it can be ascertained that such data reflect implicit L2 knowledge of the learner and thus exclude all other potential sources². In response to such criticism, Bley-Vroman et al (1988) state that, to a very large extent, mental structures and processes that make language learning possible may be reflected in the linguistic intuitions speakers have of a language. In other words, to a certain extent, judgmental data reflects competence. But the question that still remains unanswered is, does it tease it apart from other knowledge sources?

The problem regarding the use of acceptability judgements relates to the knowledge source a learner taps in making a judgement. There is no clear "understanding of the cognitive factors involved in the internal origin of linguistic intuitions and in their overt expression as judgements" (Sorace 1996a:375). The question is whether the learner taps the language specific module or invokes knowledge whose source is the "general learning module". The point here, as emphasised in McLaughlin (1978), Gregg (1990), Goss et al (1994), Hagen (1994) and Cowan & Hatasa (1994), is that differences in knowledge sources inadvertently lead to behavioural differences. Knowledge structures that are associated with the language specific module are different from those that are associated

² However, Cowart (1997b:95) argues against this view.

with the general learning module (see 3.1.2.1). The language specific module gives rise to knowledge structures that are implicit and intuitive whereas those linked to the general learning module may be explicit and comprise of a system of facts and observations including metalinguistic knowledge. Hence acceptability judgements which are based on justification whether as less informal descriptions or metalinguistic rules are associated with the non-linguistic general learning module while those that rely on “feel” or, more specifically, intuition are associated with the language specific module.

However, it is not clear what the relationship between linguistic competence and acceptability judgements is because the psychological nature of linguistic intuitions is not very clearly understood (Sorace op.cit.). Since acceptability judgements are metalinguistic in nature, arguably, these do not tap the structure of linguistic competence. It has been argued that “the rules of linguistic competence are abstract...and they are not easily related to occurring forms and utterances” (Jones 1985:116).

The point made is that the whole architecture of linguistic competence cannot be tapped through observations made on surface forms and utterances because linguistic competence is not fully represented in these forms. Therefore, intuition data, in the form of acceptability judgements does not provide a “straight forward deterministic relationship to linguistic competence” (Birdsong 1989:60). What is being put to question here is the relationship between intuition data and competence, i.e. whether this relationship is direct (in which case acceptability judgements provide direct evidence of the exact nature of the learner’s competence) or indirect (i.e. although it does not provide a direct reflection of competence, since it shows what are the allowable and disallowable sentences in the learner’s developing grammar it gives insight into the learner’s competence). In fact, Carroll & Meisel (1990) argue that the only problem with any research that uses acceptability judgements is when the results from these studies are viewed as a “direct reflection of the learner’s competence”. They point out that a more mundane approach would be to assume that the results obtained from acceptability tasks provide insight into the possible nature of IL competence.

A number of researchers have questioned the validity and reliability of acceptability judgements in tapping underlying linguistic competence (Nagata 1988; Birdsong 1989; Ellis 1991; Gass & Beretta 1991; Christie & Lantolf 1992; Martohardjono 1993; Gass 1994; Cowan & Hatasa 1994; Goss et al 1994). The validity argument revolves around whether acceptability judgements being metalinguistic in nature can be said to tap underlying competence which these are purported to measure (Cowan & Hatasa 1994, Goss et al (op. cit.), Sutter & Johnson 1990). Munnich et al (1994) argue that acceptability judgements do not tap linguistic competence. Munnich et al's argument is that these tasks are inherently unreliable in that they measure the informant's "beliefs" or "prescriptive knowledge about language" and thus, data obtained from such tasks are not devoid of extragrammatical factors.

Chomsky (1986) also acknowledges that acceptability judgements "do not reflect the structure of the language directly" (Chomsky 1986:37). Sutter & Johnson (op.cit.) state that linguistic competence does not require any effort on the part of the subjects, yet in acceptability tests the task of expressing an acceptability judgement invokes "continued and sustained concentration" (Markman 1979:653). In fact, Carroll et al (1981:380) state that learners' intuitions reflect "complex behavioural performances" (a point also made in Chaudron (1983)) and Ellis (op. cit.) associates these behavioural performances to "test-performing strategies" rather than the language specific module. Thus it may be the case that these "complex behavioural performances" and "test-performing strategies" reflect the use of general cognitive abilities. The emphasis here is that acceptability judgements are not totally free of performance constraints. But Leow (1995, 1996) argues that although grammaticality judgements do not provide direct evidence of learners' competence there is also a way in which these are also not reliable measures of performance.

By and large, the debate on the validity of acceptability judgements questions the intricate relationship between linguistic intuitions and (a) grammatical competence (b) acceptability judgements and (c) general cognitive abilities. Sorace (1996a), following Newmeyer

(1983), states that a relationship exists between linguistic intuitions and grammatical competence. She points out that although “psychological laws of the intuition process are poorly understood”, the use of acceptability judgements and introspective reports has led to the establishment of “very significant generalisations about syntactic processes” (Sorace 1996a:376). In Sorace’s view, there is a correspondence between linguistic intuitions and grammatical competence on the one hand, and between intuition processes and performance on the other, otherwise some of the constructs pertaining to syntactic processes would not have been explained if such a relationship did not exist. Sorace therefore concludes that an “orderly relationship exists between linguistic competence and intuition processes and between intuition processes and performance”.

The validity of acceptability judgements in tapping linguistic competence is also questioned because when responding to acceptability, subjects may be responding not only to grammaticality, but also to their own opinions about style, content, etc. (Chaudron 1983). Thus judgements may be affected by extra-grammatical factors rather than by “genuine” intuitions. Acceptability could also be perceived as frequency of usage, conformity to a prescriptive norm or prestigious register or even semantic or pragmatic plausibility (Bard et al 1996). However, this problem can be alleviated by *carefully controlling for extragrammatical factors when selecting the test design, test sentences and the subjects* (Schütze 1996). Some of the factors to be controlled for are: (a) pragmatic considerations in that the chosen sentences should be context-neutral, (b) difficulties arising from parsing (c) the context of presentation and (d) the mental state of the subjects and their linguistic training.

The use of acceptability judgements is further questioned on grounds of their reliability. The reliability of judgements has to do with the consistency displayed by different subjects and the consistency in the judgements of the same subject in different tests. Ellis (1991) used the test-retest method in his study and found considerable inconsistency in his subjects’ grammaticality judgements and thus concluded that “learners’ judgements can be inconsistent, and, therefore, unreliable, when they are unsure” (Ellis 1991:181). However,

Gass (1994) cites statistical and methodological problems with Ellis' study. First, only descriptive statistics were provided and the numbers of subjects and linguistic items were not held constant for both parts of the test and the retest group.

Christie & Lantolf (1992) in their investigation of English native speakers' acquisition of some aspects of the pro-drop parameter in Italian used a similar test-retest method and concluded that "judgement data may not necessarily inform us of a learners' changing interlanguage grammar" (Christie & Lantolf 1992:40). Interestingly, this study has, just like Ellis', been questioned on grounds of both statistical and methodological problems (Gass 1994, Leow 1996).

On the other hand, Gass (1994) argues that judgmental data is unreliable only when dealing with aspects of the grammar that are indeterminate but that they are reliable when dealing with determinate knowledge. The point Gass makes is related to an issue that has been discussed on acceptability judgements having been devised for use in stable native speaker competence rather than in developing non-native competence. Gass is of the view that the issue of reliability of acceptability judgements cannot be divorced from issues of indeterminacy (Leow 1996)³. This would suggest that judgmental data may be unreliable when dealing with very low level learners whose grammars are still very unstable whereas in more advanced L2 stages, it would be reliable. This is also supported in Ellis (1991) who states that more advanced L2 learners make judgements based on "genuine linguistic intuitions"⁴. Furthermore, Birdsong (1989:101-107) suggests that with low level learners acceptability judgements could be unreliable because they tend to have a response bias. Low level learners have a propensity to accept ungrammatical sentences and reject grammatical ones (Cook 1993). In early L2 acquisition acceptability judgements may not

³ Leow (1996) is very critical of Gass' study although acknowledging the methodological and statistical strength of her analysis and interpretation of results. Leow's criticism is that Gass' statement that grammaticality judgments reflect patterns of second language use is limited to only a period of one week learners' interlanguage. Leow argues that researchers need to investigate patterns of second language use from different developmental stages beyond one week to truly reflect the changes that are taking place in the ILG.

⁴ Johnson et al (1996) suggest otherwise. Their study shows that even at the most advanced stages adult L2 learners evidence asymptotic performance because their grammars still reflect a high degree of inconsistency. There is still inconsistency in their responses to individual test sentences over repeated presentations.

accurately tap the L2 learner's underlying competence because these may be affected by variables such as choice of vocabulary, sentence length and the position of the target form in the sentence (Cowan & Hatasa 1994). In order to alleviate the reliability problem Sorace (1988, 1996a), in line with Greenbaum (1977), proposes four reliability criteria for the intuitions of non-native speakers. These are:

1. To repeat the same test with the same materials but with different kinds of measurement.
2. To replicate the same test with different subjects belonging to the same speech community⁵. The assumption is that if these are non-native speakers then the interlanguage grammar of learners at the same proficiency level and from the same language background would have certain features in common.
3. To repeat the same tests with the same subjects using different but equivalent materials. In the event that there are inconsistent responses to different lexical versions, this would be a reflection of inter-subject reliability. For L2 learners, those in the very early stages of development, the situation might be slightly different. Different judgements could be given to different lexicalisations as a result of mere ignorance.
4. To repeat the same test with the same subjects although this has to be done after a lapse of time. This could be problematic because ILGs are constantly changing. Hence "repeated testing may catch the still learning subject at different points" (Johnson et al 1996:338) in the developmental process. In consequence, the period should not be too long.

⁵ The concept of a speech community is a controversial one in sociolinguistics and if the arguments against its use can be extended to SLA, it can be argued that non-native speakers at the same level of proficiency may not necessarily form a speech community after all (Long 1993).

To recapitulate: it has been stated that the use of acceptability judgements is highly controversial in experimental studies for various reasons. One of the major objections to the use of acceptability judgements is that it is not possible to isolate the variation that is a result of the use of the language specific module and that which is a result of other non-linguistic factors. However, not all researchers agree with this objection. For instance, Cowart (1997a) argues that;

...the fact that acceptability data are responsive to many kinds of influence does not entail that all those influences must be identified and understood before acceptability data can be put to work in any particular domain including grammatical theory. (1997a:8)

Cowart states that while the “impurity” in acceptability judgements may be an inconvenience, it should not be viewed as a “bar to making effective use of the phenomenon” (p11). The main thrust of Cowart’s argument is that since it is not possible to completely tease apart aspects that are unrelated to the language specific module, then it is only through “thoughtful design” and the use of statistical methods that it is possible to eliminate the components of the variation that may be a reflex of the syntactic manipulations which are the main focus of the research from the variation resulting from other factors, i.e. the “impurities”.

On the inconsistency of judgements, Cowart observes that “stability is a theory-relative construct” (p11). Psychological phenomena or any phenomena from the social sciences generally vary to a degree and thus whether this variation can be quantified as “large” or “small” can only be decided relative to specific questions and purposes. Thus Cowart supports the use of acceptability judgements because although these may be affected by other external factors, these “impurities” do not invalidate the results obtained from using such an instrument. Gass (1994) suggests that although there have been a lot of objections to and controversy surrounding the use of acceptability judgements in eliciting information about the underlying grammatical competence of L2 learners, no other method has ever

been devised in order to effectively measure competence. Hence acceptability judgements were used in the present study as a test instrument. It was reasoned, in line with Cook (1993) and Schütze (1996), that acceptability judgements are an experiment and as such standard experimental procedures outlined in Schütze (op. cit.) were followed as best as possible. These include having an adequate number of test sentences and controls and the sentences presented to the subjects in a standardised way. To ensure reliability of the judgements, the test was replicated with the same subjects using the same materials but using different kinds of measurement scales.

So far the term “acceptability” has been used although no attempt has been made to define or to differentiate its use from that of a closely related concept, i.e. grammaticality. In the next section we draw the reader’s attention to the differences in the use of the two terms.

6.2.1.1.1 Grammaticality and Acceptability

The terms “grammaticality” and “acceptability” are often used interchangeably which suggests that the terms are synonymous. However, there is a theoretical distinction in their use (Birdsong 1989, Haegeman 1994).

First, the term grammaticality refers to “compatibility with the grammar of a particular language” (Bard et al 1996:33). Thus grammaticality is a theoretical concept (Haegeman 1994) and sentences can only be grammatical or ungrammatical on the basis of a theory of a language formulated by a linguist. In other words, the term refers to those sentences generated by a theory of grammar while acceptability involves sentences “about which speakers have a feel of well-formedness” (Gass 1994:303). Bard et al (1996) state that when subjects are asked to make judgements about sample sentences, the hypothesis tested is whether there is a match or mismatch between the speaker’s opinions and the claims made by a linguist about the grammar. In consequence, acceptability is a term which describes the native speaker’s intuitions about linguistic data. A native speaker who judges the acceptability of a sentence is not in a position to make decisions about its grammaticality. A native speaker can only have intuitions about its acceptability. Thus

eliciting views about the acceptability of sentences does not “give direct access to speakers’ linguistic competence” (Bard et al 1996:33).

Second, the term grammaticality is a theoretical construct and sentences that are grammatical are not directly accessible. Their status (i.e. either as grammatical or ungrammatical) can only be inferred (by a linguist on the basis of some theory) from opinions expressed by native speakers when making a judgement. In this regard, there is a three way distinction that can be made between grammaticality (a property of the linguistic stimulus), acceptability (a property of the linguistic stimulus as perceived by the speaker) and an acceptability judgement (the response given by speakers to the linguist’s inquiries) (Bard et al op.cit.). This distinction becomes clear in instances where sentences which are linguistically grammatical are judged as unacceptable and vice versa (Cowart 1989, Sorace 1996a).

To learners, sentences may be “acceptable” or “unacceptable” with respect to pragmatic appropriateness, metalinguistic knowledge or grammatical competence (Haegeman op. cit.). From the viewpoint of a linguist, sentences are grammatical or ungrammatical with respect to a particular theory of language. The problem is that when native speakers make an acceptability judgement, it may be based on non-linguistic considerations. Thus the type of knowledge which grammatical sentences may rely upon may not necessarily be “grammatical competence” as understood in Chomskyan linguistics (Zobl 1992).

On the other hand, judgements of “ungrammatical” or “unacceptable” strings reflect grammatical knowledge in a slightly less ambiguous manner. Felix (1988:286) attributes this to the fact that “UG is an unambiguous source of information on UNgrammaticality” while it is a “secondary source for identifying grammatical structures”. The point Felix makes is that although grammatical sentences may draw upon grammatical competence, judgements of ungrammatical strings represent much more reliable data as these are more likely to tap on knowledge derived from mental computations. The assumption in Chomskyan linguistics and in UG-oriented approaches to SLA is that UG principles are

“formulated in terms of negative constraints on grammar” (Munnich et al 1994:229). A learner’s knowledge of ungrammaticality is evaluated in order to assess a learner’s knowledge of the negative constraints.

However, there is conflicting evidence in the literature regarding the accuracy and the uniformity with which learners judge both deviant and non-deviant sentences (Hedgecock 1993). Felix (1988) maintains that ungrammatical sentences are judged much more accurately than grammatical ones. Zobl (1992) also claims that ungrammatical strings are judged with less deviation than grammatical ones. Bialystok (1987), Ellis (1991), Hakes (1980) and Sutter & Johnson (1990) suggest that there is greater certainty and accuracy to non-deviant strings in subjects’ responses than in deviant strings. Research using metalinguistic judgements has established that deviant sentences reflect degrees or gradations of acceptability (Sorace 1996a; Bard et al 1996) which are not reflected in grammatical sentences. The hierarchy of unacceptability may give an indication of the exact nature of the mental representation of the different structures and the changes taking place in developing ILGs.

To recapitulate: we have discussed the use of acceptability judgements in eliciting grammatical intuitions. In the next section we examine how indeterminate intuitions are manifested in a judgement task.

6.2.1.1.2 Indeterminacy

In developing grammars linguistic structures do not always have a categorical status (see 2.6.2). In other words, they are not either grammatical or ungrammatical. They may be grammatical to a degree. Variability at the level of intuition is a reflex of indeterminacy in non-native intuitions of grammaticality. Sorace (1988) defines indeterminacy as

...the absence of a clear grammaticality status for a particular linguistic construction in the speaker’s competence, and which manifests itself either in the speakers’ lack of intuitions. (1988:9)

Thus indeterminacy can be operationalized as “variability in the speakers’ judgements” (Sorace 1996a) which may reveal itself in inconsistency of judgements or “an inability to distinguish acceptable from unacceptable sentences” (p332). What causes indeterminacy in ILGs?

Different factors cause indeterminacy at different developmental stages. At the initial state, indeterminacy could be due to lack of knowledge as learners cannot have intuitions about, for example, parameter settings not represented in their IL. As transfer is characteristics of very early L2 grammars, this would suggest that at the initial state learners cannot have intuitions about syntactic properties not instantiated in the L1. Hence the initial state ILG is indeterminate because it is incomplete.

On the other hand, intermediate and advanced indeterminacy is a result of a re-analysis or restructuring of L2 knowledge. It is a reflex of the permeability of IL systems (Adjemian 1976) or their “openness” to penetration by other linguistic systems. Permeability leads to a situation whereby there is more than one possible grammatical option for the same aspect of grammar. The alternative representations may belong to different linguistic systems or to adjacent stages of development, or both. In the former, the existent parameter settings which might have been transferred from the L1 (or any other language known to the learner) would be in the process of change towards the TL. In the later case, the coexisting rules belong to the same linguistic system wherein an earlier form competes with a newly acquired form. For example, in the acquisition of English tense, an earlier form might be a root verb while in the next stage a root verb, might alternate with a tensed form. In both cases indeterminacy is a reflex of knowledge strength. When a new form is introduced the knowledge strength of the earlier form weakens. Because the newly acquired knowledge is also not yet strong enough to be the sole systems generating it, the learner uses both weak knowledge systems. This leads to the absence of determinate rules because determinate rules are a product of a strong knowledge system.

Near-native speakers also display variable judgements although the same degree of variation is not evident in native speaker judgements (Coppieters 1987). This difference in their judgements is attributed to differences in their underlying competence. Near-native speakers may have an incomplete knowledge representation at ultimate attainment. The variation in their judgements might be attributed to incompleteness.

However, Sorace (1993) draws a distinction between an incomplete and a divergent knowledge representation at ultimate attainment. An incomplete grammar lacks certain properties of the L2 while a divergent grammar has properties that are consistently different from those of the TL grammar. In an acceptability judgement task a divergent competence would exhibit determinate and consistent judgements which do not coincide with those of native speakers. On the other hand, an incomplete representation will show inconsistent, random or indeterminate judgements. At advanced stages it could be difficult to tell whether indeterminate judgements are a result of incompleteness or intermediate grammaticality.

In summarising: it has been established that in studying developing ILGs the use of intuition data in the form of acceptability judgements, although controversial, is preferred over the use of production data. The reason for this is that production data is rather messy and unreliable when tapping indeterminate grammatical knowledge. While acceptability judgements are advantageous in that they tap a narrower range of linguistic knowledge, their use is also suspect. Acceptability judgements have been questioned on grounds of validity and reliability. Since no other elicitation procedure has been found, acceptability judgements were used. In the next section we discuss the type of measurements used.

6.2.1.2 Types of Measurements

In order to ensure that the results obtained reflect the linguistic intuitions of the subjects as accurately as possible, the test was replicated using two measurement scales, namely; an interval and an ordinal scale on the same data and with the same subjects under the same test conditions. The assumption was that if the results obtained from the two tasks

coincide, then it could be safely concluded that the test instruments and the test itself are reliable. The types of measurement scales used to tap linguistic acceptability were a numerical magnitude estimation procedure (an interval scale) and a rating task (an ordinal scale). In the following section we discuss how each measurement scale works and we evaluate its strengths and weaknesses.

6.2.1.2.1 Magnitude Estimation Procedure

The use of a numerical magnitude estimation (ME) technique in language acquisition research is new (see Cowart 1997a; Bard et al 1996) and its use in measuring linguistic acceptability has not gained as much popularity as the rating scale. This may be attributed to the fact that numerical magnitude estimation has been adapted from psychophysics. It has been used in psychophysics for quantifying physical stimuli on a sensory continuum (Lodge 1981). In psychophysics proportional judgements are made about the intensity of sensory continua such as loudness of sound or the brightness of light. Subjects are required to associate a numerical judgement with a physical stimulus. The procedure involves associating a number, which is either decided by the subject or by the researcher, with an initial stimulus. This number anchors the scale for the successive stimuli in that subsequent stimulus which is presented to the subjects in succession is assigned a number which reflects the proportional relationship between the particular stimulus at hand and the initial one (Bard et al 1996). What needs to be emphasised is that ME relies heavily on the concept of proportionality.

Most recently, ME has been used in measuring social stimuli on a social-psychological scale. Although it is relatively new in linguistics, it has been used in eliciting linguistic intuitions about properties of which an objective interval scale is available. As Green (1987) states, this has been the case in measuring speech rate.

One of the advantages of using an ME technique is that it does not constrain the number and range of responses which are available to subjects. Subjects express precise judgements without limiting them to a predetermined scale. In addition, the procedure

requires that subjects make comparative or relative judgements (Sorace 1996a). Thus it makes it possible to capture variability and degrees of indeterminacy in the learners' judgements. Since ME produces interval scales, this is an added advantage because these scales are isomorphic to the structure of arithmetic and are easily amenable to parametric statistics.

The most important aspect in using ME is that in its canonical form, it is a timed procedure. As most of the subjects in the study have been exposed to the target language in formal classroom settings, there could be a strong conflict between the use of metalinguistic knowledge and the IL norm as a result of rule learning. The use of timed ME minimises the use of metalinguistic norms. ME also gives more certainty of obtaining the subject's subjective impressions of sentence acceptability in making recourse to their intuitions (Bard et al 1996; Sorace 1996b). Although there are advantages in using ME, this is not to suggest that there are no limitations related to its use. We consider these in the next section.

6.2.1.2.1.1 Limitations of Magnitude Estimation

As indicated, ME is a method that has been used in psychophysics. To a certain extent this is a drawback for language acquisition research because there are differences in the disciplines. Linguistic acceptability differs from physical dimensions such as weight, length, brightness, etc. because it has no obvious or observable physical continuum which can be plotted against the subjects' impressions. Thus unlike other physical dimensions "the correctness of an acceptability cannot be ascertained" (Sorace 1996a:400). However, Bard et al suggest that on the basis of validation studies "magnitude estimation can be applied to linguistic acceptability in much the same way as to psycho-social continua" (Bard et al 1996:63).

Even if ME can be applied to linguistic acceptability, this still raises problems because acceptability is not a metric measurement. It seems impossible to estimate the acceptability of sentences using fairly objective measures. In fact, Poulton (1989) has questioned the

validity of the linear relation between the stimulus magnitude and subjective judgements. In addition, subjects who are required to make these judgements are untrained informants who are being requested to use unfamiliar units of measurement. In a way this also sets constraints on the selection of subjects for the investigation. One needs subjects with “a modest degree of mathematical sophistication” (Coward 1997a:74). But this problem could be alleviated by giving subjects some prior training on using the technique followed by a practice session so as to familiarise them with the procedure (i.e. to make them test-wise)⁶. It has been suggested that the technique has a low-face validity. Recall that ME is dependent on the notion of proportionality. The problem is that subjects may have difficulty in understanding the concept of proportionality in which case, they may respond either linearly, logarithmically or even both⁷.

6.2.1.2.2 Rating Task

Rating scales were used in addition to the ME procedure. The rating task was designed to elicit learners’ absolute judgements with regard to isolated sentences. In the rating task, acceptability judgements were elicited on a 5-point scale with (1) representing the least acceptable sentence while (5) represented the most acceptable sentence.

The choice of a 5-point scale was based on the assumption that, unlike a binary or dichotomous scale such as a yes/no or either/or answer, a 5-point scale creates possibilities for capturing intermediate judgements. The advantage of using a 5-point scale is that it allows for a wider scale through which acceptability may be expressed (cf. Russell & Gray 1994). Thus a binary scale was not used because it was felt that it constrains subjects while scales that include more than 3 points are statistically more reliable and have better resolution (Sorace 1996a).

Binary scales force subjects into making dichotomous judgements “which may reflect a certainty that is not present in the grammar” (Sorace 1990, 1996a). In a sense

⁶ The structures used in the sentences for the practice session must be unrelated to those under investigation.

⁷ However, Bard et al (1996) state that this does not seem to matter.

dichotomous judgements would blur indeterminacy. Dichotomous judgements can give the researcher an impression that the judgements are determinate when these are inconsistent or indeterminate. As Sorace (1988) states, 'it is essential to capture indeterminacy for judgements to be valid'. Therefore, dichotomous scales lack validity in that they cannot capture the very fundamental character of ILGs which they are supposed to capture. However, it is also possible that a structure may be determinate, but at the same time be less acceptable than another and this cannot be captured by means of an either/or decision as this would obscure some in-between categories.

The rating task was also timed. This was to minimise the possibility of using metalinguistic knowledge. By being timed, the task aimed at tapping immediate and spontaneous judgements. Although there are advantages in using a 5-point scale there are also limitations to its use.

6.2.1.2.2.1 Limitations of Rating Measurements

Depending on the aim of the research, a 5-point scale, by providing an "ordered metric scale" (MacRae 1995:40), merely rank orders scales and makes no commitment to any other kind of difference between the points. This shows that although a rating scale is "capable of distinguishing clear cases of grammatical and ungrammatical sentences" these cannot "determine whether the sentences that display high variability" reflect subjects' lack of knowledge of the L2 grammar or whether this variability is "due to specific characteristics of the stimuli" (Cowan & Hatasa 1994:297-8). This could be a serious handicap if the aim of the research is to investigate degrees of un/acceptability. Furthermore, being an ordinal scale, a 5-point scale, does not easily lend itself to the use of parametric statistical analyses.

To summarise, this section has dealt with the measurement scales used in the experimental study. The issues examined were related to the strength and weaknesses of each measuring instrument. In the next section we consider the test materials used in the acceptability judgement test.

6.2.2 Test Materials and Rationale for Test Sentences

As this thesis is an investigation of the extent to which functional projections are represented in initial state L2 systems, the test sentences were designed to test the acquisition of syntactic aspects related to functional structure. Specifically, the test sentences were designed to test the availability of a CP-projection in Zulu L2 grammar. As stated, the structures investigated were tensed C whose occurrence in a grammar implicates the projection of the functional head C and topicalization which implicates the projection of the functional head Top. As discussed, Top projects into TopP which is a CP-level projection in a Split-CP analysis. In this section we provide the test categories and examples of the test sentences used. We also establish the rationale in using the particular sentence types.

1. *Ukuthi Complement Sentences.*

The test categories used for the *ukuthi* ‘that’ complement sentences were:

1. *Complement of V, [+] ukuthi*

- (i). Abafana ba cabanga ukuthi uThabo u se theng e imoto.
(a/the-boys AgrS-think that a/the-Thabo AgrS-Asp-buy-Tns a/the car)
(The boys think that Thabo has bought a car).

- (ii). Ngi cabanga ukuthi uThoko u zoku dla amabhontshisi.
(I- think that a/the-Thoko AgrS-Tns-eat a/the beans)
(I think that Thoko will eat beans).

2. *Complement of V, [-] ukuthi*

- (i).* Abafana ba cabanga 0 uThabo u se theng e imoto.
(a/the boys AgrS-think 0 a/the Thabo AgrS-Asp-buy-Tns a/the car)
(The boys think Thabo 0 has bought a car).

- (ii). *Ngi cabanga 0 uThoko u zoku dla amabhontshisi.
 (I think 0 a/the Thoko AgrS-Tns-eat a/the beans).
(I think 0 Thoko will eat beans).

3. Complement of A, [+] ukuthi

- (i). Ugogo u qinisekile **ukuthi** abantwana ba hlala e Thekwini.
 (a/the old lady AgrS-certain **that** a/the children AgrS-live loc- Durban)
*(The old lady is certain **that** the children live in Durban).*
- (ii). Ingane zi qinisekile **ukuthi** amaswidi a phele izolo.
 (a/the young children AgrS-certain **that** a/the sweets AgrS-finish yesterday).
*(The young children are certain **that** the sweets are finished).*

4. Complement of A, [-] ukuthi

- (i). *Ugogo u qinisekile 0 abantwana ba hlala e Thekwini.
 (a/the old lady AgrS-certain 0 a/the children AgrS-live loc-Durban)
(The old lady is certain the children live in Durban).
- (ii). *Ingane zi qinisekile 0 amaswidi a phele izolo.
 (a/the young children AgrS-certain 0 a/the-sweets AgrS-finish yesterday
*(The young children are certain **that** the sweets are finished).*

5. Verb-Object-Complement Clauses, [+] ukuthi

- (i). Kumele si khombise imantshi **ukuthi** lokhu ku qondile.
 (Must AgrS-show a/the magistrate **that** this be- correct)
*(We must show the magistrate **that** this is correct).*
- (ii). Kumele ba tshel e isela **ukuthi** lokhu ku bi.
 (Must AgrS-tell-Tns a/the-thief **that** this be bad)
*(They must tell the thief **that** this is bad).*

6. *Verb-object-Complement Clauses, [-] ukuthi*

(i). *Kumele si khombise imantshi 0 lokhu ku qondile.

(Must AgrS-show a/the magistrate 0 this be correct)

(*We must show the magistrate 0 this is correct).

(ii). *Kumele ba tshel e isela 0 lokhu ku bi.

(Must AgrS-tell-Tns a/the thief 0 this be bad)

(*They must tell the thief 0 this is bad).

The rationale for the **ukuthi** complement sentences was that, in the acquisition of complementation, evidence for the CP projection is multifaceted. In a language like English subordinating complementizers are not the only form of evidence for declarative complementation as there is a null alternative. As established, English instantiates both CP- and Top-type C. A CP-type C grammar allows an overt lexical complementizer as a complement of V, A and in verb-object-complement clauses whereas a Top-type C only allows a null complementizer as a complement of V and A. In order to establish the type of complementation present at the L2 initial state it was hypothesised that if native speakers of English differentiated between complements and treated the verb-object-complement sentences differently from other complements (i.e. V and A), it would be possible to establish the type of C they are using as an initial state grammar.

2. ***Ukuthi in Sentential Subjects.***

The test categories used for the **ukuthi** in subject position sentences were:

7. *Sentential Subject, [+] ukuthi*

(i). **Ukuthi** u se y e e sikoleni ku yiphutha e likhulu.

(**That** AgrS-Asp-go-Tns loc-school be-mistake that-big).

(**That** he has gone to school is a big mistake).

- (ii). **Ukuthi** u se theng e imoto ku ya jabulisa kakhulu.
 (**That** AgrS-Asp-buy-Tns a/the car be-Tns-happy big).
 (**That** he has bought a car is a good thing).

8. Sentential Subject, [-] ukuthi

- (i). * **0** U se y e e sikoleni kuyiphutha e likhulu.
 (**0** AgrS-Asp-go-Tns loc-school be-mistake that-big).
 (* **0** he has gone to school is a big mistake).
- (ii). * **0** U se theng e imoto ku ya jabul isa kakhulu.
 (**0** AgrS-Asp-buy-Tns a/the car AgrS-Tns-happy-caus big).
 (* **0** he has bought a car is a good thing).

As stated, the use of each CP-type (i.e. either Top-type C or CP-type C) has structural consequences one of which is whether an overt lexical complementizer is permitted in a dislocated position, e.g. a subject position. A CP-type C grammar will not only allow an overt lexical complementizer in the three complement-types, it will also allow it in a subject position. Similarly, a Top-type C grammar will not only disallow a covert complementizer in verb-object-complement clauses, it will also disallow it in a dislocated position. Thus it was hypothesised that judgements on *ukuthi* in a subject position would further ascertain the type of C present in the initial English-Zulu ILG.

3. Pseudo-gap Topics.

The following test categories and sentences were used:

9. [+] gap topic, sentential subject

- (i). **Lomfana**, ukuthi **0**, u phumelel e e zifundweni za khe kwethuse iningi.
 (**This boy**, that **0**, AgrS-succeed-Tns loc-a/the studies of-his surprise many)
 (***This boy**, that **0**, succeeded in his studies surprised many people).

- (ii). *Lekhomputha*, ukuthi u funa u kuyi sebenzisa *0j* manje yiphutha e likhulu.
 (*This computer*, that AgrS-want AgrS-Tns- use *0j* now a/the mistake that-big).
 (**This computer*, that you want to use *0j* now is a big mistake).

10. [-] gap topic, sentential subject

- (i). Ukuthi *lomfana* u phumelel e ezifundweni za khe kwe-thuse iningi.
 (That *this boy* AgrS-succeed-PT a/the studies of-his AgrS-surprise many).
 (That *this boy* succeeded in his studies surprised many people).
- (ii). Ukuthi u funa u kuyi sebenzisa *lekhomputha* manje yiphutha e likhulu.
 (That AgrS-want AgrS-Tns-use *this computer* now a/the-mistake which big).
 (That you want to use *this computer* now is a big mistake).

11. [+] gap topic, wh-island

- (i). *Lelikalishi*, ngi funa ukwazi ukuthi u zoli thengisa nini *0j*.
 (*This carriage*, I-want to-know that AgrS-Tns-sell when *0j*).
 (**This carriage*, I want to know when you intend selling *0j*).
- (ii). *Leya moto*, ng azi ukuthi uBusani u ba tshelile ukuthi u zoyi thenga nini *0j*.
 (That *car*, Neg-I-know that a/the Busani AgrS-Agr0-tell that AgrS-Tns-buy when *0j*).
 (**That car*, I do not know whether Busani told them when he intends selling *0j*).

12 [-] gap topic, wh-island

- (i). Ng i funa ukwazi ukuthi u zoli thengisa nini *lelikalishi*.
 (I- want to-know that AgrS-Tns-sell when *this carriage*).
 (I want to know when you intend selling *that car*).
- (ii). A-nga-zi ukuthi uBusani u ba tshelile ukuthi u zoyi thenga nini *leyamoto*.
 (Neg-I-know that a/the Busani AgrS-Agr0-tell that AgrS-Tns-buy when *that car*).
 (I do not know whether Busani told them when he intends selling *that car*).

13. [+] gap topic, embedded clause

- (i). *UBusani_j* uThabo u shilo ukuthi *0_j* u sebenza Egoli.
 (a/the *Busani_j* a/the Thabo AgrS-say that *0_j* AgrS-work Johannesburg).
 (**Busani_j*, Thabo said that *0_j* works in Johannesburg).

- (ii). *UBongi_j* uThabo u nakana ukuthi *0_j* u se- hlala e Mlazi.
 (a/the *Bongi_j* a/the Thabo AgrS-believe that *0_j* AgrS-Asp-live loc-Mlazi)
 (**Bongi_j*, Thabo believes that *0_j* now lives at Mlazi).

14. [-] gap topic, embedded clause

- (i). UThabo u shilo ukuthi *uBusani* u sebenza e Goli.
 (a/the Thabo AgrS-say that a/the *Busani* AgrS-work loc-Johannesburg).
 (Thabo said that *Busani* works in Johannesburg).

- (ii). UThabo u nakana ukuthi *uBongi* u se hlala e Mlazi.
 (a/the Thabo AgrS-believe that a/the *Bongi* AgrS-Asp-live loc-Mlazi).
 (Thabo believes that *Bongi* now lives at Mlazi).

In constructing the sentence-types for pseudo-gap topics, it was reasoned that in English topicalization is strictly by XP movement. With respect to pseudo-gap topics, the question is whether native speakers of English will treat the relationship between the topic and the gap inside an island as one of movement. In Zulu both sentence-types are acceptable and they are derived by non-movement. Since the gaps are inside islands, it is hypothesised that if feature strength transfers, then native speakers of English will treat the relationship between the topic and the gap as one of movement and thus low-level learners will reject the gap sentences as these will be perceived as violating subadjacency operative in their L1 and not in the TL. If, on the other hand, feature strength does not transfer (as suggested by the VFH) then beginner learners who are native speakers of English learning Zulu will not have a preference for either sentence-type.

4. In-built Topics

The test categories that were used were:

15. In-built topic, [-] pre-expression

(i). Umndeni wa kubo, nga zi unina yedwa.

(a/the people of him/her, I-know mother alone).

(*People of her family, I only know her mother).

(ii). Amadolobha a ma khulu ase Afrika, nga zi iKapa yodwa.

(a/the cities that-AgrS-big of-Africa, I-know a/the Cape Town alone).

(*Big cities in Africa, I only know Cape Town).

16. In-built topic, [+] pre-expression

(i). Kumndeni wa kubo, nga zi unina yedwa.

(As-people of him/her, I-know mother alone).

(As for the people in her family, I only know her mother).

(ii). Kumadolobha a ma khulu ase Afrika, ng azi iKapa yodwa.

(As-cities that-AgrS-big of-Africa, I-know a/the Cape Town alone).

(As for the big cities in Africa, I only know Cape Town).

In-built topics occur freely in Zulu and a pre-expression is not necessary for making the in-built topic acceptable. In contrast, in-built topics are only acceptable in English if they are introduced by a pre-expression. Thus the occurrence of in-built topics is restricted in English. It was hypothesised that if the L1 final state constitutes the L2 initial state, beginner learners will have a preference for in-built topics with a pre-expression over those without.

In Zulu both in-built topics and pseudo-gap topics are base generated in Spec-CP. While in pseudo-gap topics the topic is coindexed with an empty category, an in-built topic is

unrelated to the elements within the VP. Thus it was reasoned that the postulation of an in-built topic position should affect or have implications on the acceptability of pseudo-gap topics. It was reasoned that evidence obtained from the judgements on pseudo-gap topics is not definitive and conclusive on the transfer of feature strength. Results from the judgements on pseudo-gap topics easily lend themselves to ambivalent interpretation. First, if beginner learners reject the gap sentence and accept the non-gap sentence then we have conclusive evidence that L1 strength values transfer to the L2 initial state. On the other hand, because both alternatives (i.e. the gap and the non-gap sentence) are acceptable in Zulu and are generated through non-movement, evidence for underspecification of feature strength at the L2 initial state would be ambivalent if beginner learners accept both alternatives.

Recall that in Eubank's analysis unspecified strength values of morphological features result in variability in the production of the correlate syntax. In the VFH the syntactic correlate cannot be instantiated consistently if the morphology is incomplete. The syntactic correlate is predicted to obtain in all obligatory contexts once the abstract morphological features have been acquired. Translating Eubank's VFH into the acquisition of Zulu base-generated topics: the unspecified features are <+Top>, which are strong in English but weak in Zulu. The correlate syntax in Zulu is base-generation or non-movement. In pseudo-gap topics the gap and the non-gap sentence are both generated through non-movement and are acceptable in Zulu. If beginner learners accept both alternatives, this cannot be taken as conclusive evidence of optionality during a period of underspecification of morphological features of the functional head Top. It is plausible that beginner learners may accept both alternatives because they have acquired the abstract morphological features of Top. Zulu allows both but it is not due to feature strength differences. As indicated, our initial state grammar is not *ab initio*. It is an early grammar. It is therefore plausible that base-generation may have been acquired by the time data collection started.

Second, if intermediate and advanced learners accept both the non-gap and the gap sentence we cannot attribute their judgements solely to the resetting of the non-movement

parameter. For intermediate learners, this could be a reflection of intermediate indeterminacy while for the advanced learners it could be a reflex of advanced indeterminacy or incompleteness. This ambivalence can only be disentangled on the basis of the results on in-built topics. If the parametric value of the syntactic correlate is only acquired once the abstract morphological features have been acquired, then for native speakers of English once the abstract weak morphological <+Top> features of Zulu are instantiated, then the syntactic correlate (base-generation) would be acquired. In turn, once base-generation has been acquired native speakers of English should posit a base-generated topic position in their ILG. Thus to accept an in-built topic without a pre-expression they would also have to accept that the topic coindexed with a gap inside an island is generated by non-movement.

Thus an implication relationship exists between the acquisition of in-built topics and pseudo-gap topics. For English speaking learners of Zulu the postulation of a base-generated syntactic position for the topic in the ILG is a precondition for the acceptance of pseudo-gap topics. Therefore in-built topics were included in order to be used as a predictor for the acquisition of pseudo-gap topics. Thus it was hypothesised that in the acquisition of in-built and pseudo-gap topics, there will be an implication acquisition order: as the acceptance of the in-built topic increases so will acceptance of a topic coindexed with a gap inside an island.

In designing the acceptability judgement test, the standard experimental control techniques suggested in Schütze (1996) such as random sampling of stimulus materials/sentences and counterbalancing for order effects (Derwing 1979) were followed. Hence the order of the stimulus sentences were randomised using the randomising system in Minitab 10.2⁸. The

⁸ Kaplan (1993:71) argues that randomizing sentences for a grammaticality judgment test is less effective because in the process of randomizing, some sentences might end up next to each other which one would not want to be next to each other. This is especially true in the case of repeated measures where a grammatical/ungrammatical pair (different lexicalisations of the same syntactic structure) may be next to each other. In line with Kaplan, an effort was made to ensure that the sentences were distributed throughout in such a way as not to influence the subjects judgments. This was essential because subjects not only heard but also saw the sentence on the board. If subjects only hear the sentence, such ordering problems could be less noticeable because the subjects would be focusing on the sentence they are hearing and therefore less likely to remember the previous sentence. Since the subjects in this study also saw the sentence, such ordering problems were likely to have an effect on the subject's judgments.

sentences were randomised so that two consecutive sentences testing the same syntactic structure did not succeed each other. The total number of words in a sentence ranged from 5-10 words resulting in the shortest sentence having 5 words while the longest sentence consisted of 10 words. In choosing vocabulary items an attempt was made at choosing words which had a very neutral everyday context and thus whose interpretation could not be said to have been ambiguous. In constructing the test sentences, the control and the experimental sentence were identical in every way possible except for the syntactic structure under investigation. This is a standard procedure used in psycholinguistic experiments of acceptability judgements. The rationale behind its use is that whatever differences arise in the judgements between the experimental and the control sentence, these can only be attributed to the linguistic feature under investigation.⁹

Judgements were elicited on 16 sentence types and for each sentence type there were two tokens. In other words, for each structure there were two experimental sentences and two control sentences. Thus the test was a repeated measures design. The rationale in choosing a repeated measures design was that such a design has advantages in instances where there are very few subjects participating in the experiment (Everitt 1995, Crowder & Hand 1990)¹⁰. Since the response variable is recorded more than once, the approach provides control over individual differences between subjects (Cohen & Holliday 1996, Everitt & Dunn 1991). The use of repeated measures involving the same subjects also yields highly correlated results¹¹.

Although the procedure was timed, if the previous sentence was very close to the next one, this would have affected the subjects' judgments in some way.

⁹ See Clark (1973) for objections to this design.

¹⁰ Initially it was not expected that there would be a large number of subjects participating hence it was necessary to have a repeated measures design just in case fewer subjects participated in the experiment.

¹¹ Everitt (1996:115) raises problems related to the interpretation of results from repeated measures designs. Everitt states that repeated measures with a between-subjects factor/factors requires that we perform separate significance tests (i.e. an omnibus F-ratio) to assess between-subjects differences separately on each repeated measurement and the disadvantage is that these have a relatively low power as they are more easily affected by non-normality (Keselman et al 1995) which may lead to high order interactions. Hence a significant interaction in repeated measures tests of significance must be interpreted cautiously (cf. Lewis 1993).

There were also ten filler sentences which were constructed along the same lines as the main test in that there was an acceptable and an unacceptable sentence the difference of which was a single syntactic construction although in this case it was a syntactic construction that did not form part of the constructions that were under investigation. Since there were 16 sentence types each with two tokens the experiment consisted of 32 sentences. With the distracter items included, each subject gave judgements on a total of 52 sentences of which only 32 constituted the test for the experiment. There were two versions of the same test. Version A was presented on a magnitude estimation procedure while version B was presented as a rating task (see Appendix A1.0). Each subject had to make judgements on both tasks, which means that for the whole test each subject had to make judgements on 104 sentences, of which 64 sentences were experimental sentences.

In order to control for vocabulary difficulty, a vocabulary booklet which had all the words (with English translations) was sent to the respective institutions and to individuals who were potential participants three months prior to the scheduled date for the main test (see Appendix A1.01 for the vocabulary booklet). In most cases primary and high school teachers found ways of making subjects learn the vocabulary. In one school the teacher had written the words in very colourful paper and these were hung on the walls in the conversational laboratory. Before the commencement of the conversational class the teacher would read some of the words and the subjects would then read the English translation or vice versa.

In another school where most of the subjects had been on the course for three months, the words were also hung on the wall in the main language classroom and the teacher would read some of the words aloud everyday before or at the end of the lesson. She would point at the word and then read it aloud to the whole class and then explain what it meant in English. In addition, the same words together with their English translations had been tape recorded and the voicing had been done by a native speaker of Zulu. The tape recorded words together with their English meanings were then used in the pronunciation classes. The learners would listen to the tape and then try to repeat the Zulu word exactly as they

heard it on tape together with its English translation. University lecturers simply handed the vocabulary booklet to individual students and asked them to read it on a regular basis as they would be asked to write something on the basis of those words. In all cases, i.e. primary, high, and university students were told that they were going to be asked to participate in a research project at a later date.

As for the rest of the subjects, that is, the teachers, lecturers, editors, TV and radio news readers and journalists, they were provided with the vocabulary booklet, again three months prior to the commencement of the research and they were told that they might be asked to participate in a research project dealing with Zulu language learning at a later date. All subjects were not allowed to consult these vocabulary booklets during the experiment.

6.3. Administration of the Test

In this section we describe how the test was administered to the subjects. First, we describe how subjects were selected for participating in the test.

6.3.1 Subjects

Acceptability judgements were elicited on a sample of 189 subjects. There were 151 females and 59 males in the sample. The fact that there were more females than males was coincidental and there is no proper explanation for it except to speculate that there are more females learning languages than males, although it would be difficult to explain why even in the control group there were more females than males since these subjects were not learning languages. Perhaps it so happens that in South Africa there are more females attending school and studying at university than males. Of the entire sample only 69 of the subjects had knowledge of any one of the other Nguni languages other than Zulu which they were learning. On the other hand, there were 120 subjects in the sample who had no knowledge of other Nguni languages other than Zulu. In terms of age, the subjects were grouped into four categories. The first was the above 12 years of age but below the age of 17. In this category there were 49 subjects. The second category was the above 17 but

below 20 years of age and there were 34 subjects for the sample. In the third category, i.e. the above 20 years of age but below 25 years of age, there were 60 subjects, whereas 46 subjects were in the fourth age category i.e., above 25 years of age.

Of the entire sample 151 subjects were native speakers of English learning Zulu as a second language or working as Zulu teachers, lecturers etc. These formed the experimental group. There were 114 females and 37 males. The experimental group consisted of 120 subjects who had no knowledge of any other of the Nguni languages other than Zulu. There were 34 subjects in the first age category, 37 in the second age category, 44 in category 3 and 36 subjects in category 4.

The subjects in the experimental group were drawn from native speakers of English who were at primary, high school, university and teacher's training colleges. There were also subjects who were no longer formally learning Zulu in the classroom but were working as non-native speakers in Zulu-oriented jobs. These included both primary and high school teachers who were teaching Zulu to non-native speakers¹². There were also university lecturers who were teaching various aspects of Zulu (e.g. poetry, drama, ethnomusicology, etc.). These included lecturers, senior lecturers and Professors in Zulu Departments in two English universities that teach Zulu i.e. the University of the Witwatersrand and the University of Natal at King George IV. There were also staff from the South African Broadcasting Corporation (SABC) who were either senior editors or senior journalists in the Zulu News Desk. There were also subjects who were native speakers of English working in the Zulu news desk either as Zulu radio or TV news readers or on-line presenters on "Simunye"¹³ SABC-TV1.

In the sample 38 subjects were native speakers of Zulu who acted as a control group. The inclusion of a native speaker control group in an experimental study is a controversial issue in SLA research. Some researchers argue that by including a native speaker control

¹² There were some teachers who were teaching Zulu literacy courses to native speakers.

¹³ Simunye is a Zulu word which means 'we are one'/'we are united'.

group the IL system is denied the autonomy or idiosyncrasy it deserves as an independent linguistic system. It is assumed that the ILG is treated as a system parasitic to the target language (Sorace 1996a; Cook 1993). The native speaker group is therefore seen as a yardstick through which the IL system is measured against. Cook (op. cit.) states that the inclusion of a native speaker control group invokes Bley-Vroman's (1983) "comparative fallacy".

The "comparative" argument put forward by Sorace (op. cit.) and Cook (op. cit.) is not valid because "being a native speaker does not confer papal infallibility on one's intuitions" (Raven MacDavid cit. in Paikeday 1985). Householder (1965:15) states that although native speaker intuitions are extremely valuable heuristically, they are also "too shift and variable"¹⁴. This has also been attested in subagency research where there is evidence that native speakers' access to competence is 10% and 27% "inaccurate" in grammaticality judgements (Cook 1993). Sorace (op.cit) also acknowledges that native speaker judgements are also indeterminate especially in those areas of the grammar that involve very subtle syntactic properties or marked forms. Yet Johnson et al (1996) argue that all their native speakers were very consistent in their judgements which suggests that native speaker judgements are not variable. The inclusion of a native speaker control group was on the basis that their scores in the grammaticality judgements would then show how well native speakers who supposedly know the language do on a particular task. If native speakers, for some reason, accept the experimental sentence and reject the control sentence then it could be that this is what is acceptable in the language, yet without including this group it is possible for a researcher to erroneously conclude that this is a feature of the ILG when it is also a feature of the mature state grammar.

6.3.1.1 Subject Selection

In selecting the subjects for the test, no special set procedures were taken except that they had to be native speakers of English in the case of the experimental subjects and for the

¹⁴ See Gethin (1990) for a closely related argument.

control group they had to be Zulu first language speakers. In the following section we discuss the composition of the different groups.

6.3.1.1.1 Experimental Group

Subject selection was decided on the basis of four factors. First, subjects participated as part of the experimental group if they were native speakers of English in that the language of the household (i.e. the language used by both parents all the time at home with their children and other close family members was English). This was meant to exclude instances of compound bilinguals or those subjects who identified themselves as half-English, half-Afrikaans. The rationale behind this subject selection criteria was that, from a theoretical point of view, even in cases of compound bilingualism there is a superordinate language (Klein 1986:13) and if this language cannot be determined or established then such subjects had to be excluded from the main corpus.¹⁵

Secondly, Hakes (1980) indicates that children's ability to deal with metalinguistic tasks increases with age in that for children below the age of twelve, the variable age may interact with exposure to the target language in influencing their judgements¹⁶. Consequently, in selecting subjects, children at lower primary school level were automatically excluded for various reasons. One such reason was that such learners still lack the kind of mathematical sophistication required in doing an ME task (Cowart 1997a). Only those pupils who were in their last year of primary school were included as these were already above twelve and these had a reasonable degree of mathematical sophistication. Thus only those primary school pupils who were in standard five were included. Since by South African law these subjects are considered to be under-age and thus not in a position to make any decisions on whether to participate in an experiment or not to, parental consent was sought before these subjects participated in the study. Letters

¹⁵ This is not to suggest that the experimental group consisted of monolinguals only. In fact, some subjects had knowledge of other languages. The point of emphasis was that their primary language should be English.

¹⁶ McDaniel & Cairns (1990) argue that even young children below the age of twelve can handle grammaticality judgments if they are properly trained and the test sentences are well designed. Cowart (1997a) indicates that young learners may have problems handling ME.

were sent to parents two weeks in advance explaining (1) the nature of the research, (2) the amount of time the experiment was likely to take and (3) rationale of the study (see Appendix A 1.02) and to ask for their consent. In most cases parents were keen to have their children participate although some objected to their children participating in the experiment. Their views were respected and their children were excluded from the experiment.

Thirdly, there was also the practical consideration for students who were in examination years in that academic year. These were excluded on the basis that since they were preparing for their major examinations their participation in the research could prove too strenuous and could have psychological effects which could have either positive or negative effects on their readiness for the exam.¹⁷ It was also reasoned that most of the subjects in this category might not have been very keen to participate as they would have seen it as an interruption of their study and revision time. This ruled out high school students in Standard 8 and Standard 10 or matric students¹⁸.

Fourth, for the advanced groups i.e. those subjects who were at first and third year of study at university were included in the research while second year university students were excluded. Because of the cross-sectional nature of the research, it was decided that the first year university students be used in order to provide insight into whatever development would have taken place after the last year at high school (i.e. after Standard 10 which was not tested because the students were taking national government exams). The second year university students were excluded for the same reasons __ to allow for a further one year of development to take place. The most advanced learners came from a variety of professional backgrounds. These included trainee Zulu teachers, research students, college and university lecturers, primary and high school teachers, Ministers of

¹⁷ For instance, if a subject found the test materials in the research too difficult, the subject could feel inadequate and not fully prepared for the exams. On the other hand, if a subject found the test materials fairly easy and straight forward, the subject could be overly confident and not prepare well enough for the examinations which could affect the subject's performance in the exam.

¹⁸ Standard 8 is more like "O" levels and Matric or Standard 10 is equivalent to "A" levels.

the Gospel, journalists, editors and professors etc. (see Appendix A1.03). These were all recruited via “friends-of-friends networking” (Milroy 1987a, b) or by “word of mouth advertising” (Long 1993). Most of the subjects in this group had more than twenty years of learning Zulu and thus there was a big difference between these subjects and those in the previous group, i.e. the third year university students.

6.3.1.1.2 Control Group

For the control group the first and obvious criteria was that their first language (or what was defined as the language of the household or the language used by both parents and close family members all the time) was Zulu. Long (loc. cit.) suggests that to serve as legitimate controls and to provide valid baseline data on native speaker competence, native speaker subjects need to be more comparable to the experimental group than has sometimes been the case in SLA research. Long (op. cit.) states that the control group should be comparable to the experimental group in terms of age, sex, education, social class and in any other way that could be sociolinguistically relevant in the language concerned. An attempt was made at fulfilling this criteria and thus the subjects who were studying at historically white English institutions¹⁹ were included and there were also teachers, lecturers and professors who participated as controls just as it was the case with the experimental group. However, the subjects in the control group were not studying theoretical or Applied linguistics and had no experience with language teaching in general.

Rickford (1987) and Bickerton (1977) add yet another criteria to the choice of a native speaker control group. They state that “ideally” the native speaker control group should be monolingual since there is increasing experimental evidence that additional languages can sometimes affect first language abilities in as yet poorly understood ways. They argue that this might influence native speaker’s judgements of the acceptability of test items.

¹⁹ In South Africa universities are divided into two major groups, i.e. HWUs (Historically White Universities) and HBUs (Historically Black Universities). Even within these two broad categories, the institutions are further divided into specific ethnic groups. HWUs are further divided into HWAUs (Historically White Afrikaans Universities) and HWEUs (Historically White English Universities).

Although this may be a useful criterion in choosing a native speaker control group, it would not have been easy to get such subjects because the South African language situation does not create monolinguals especially among African Language speaking groups. But this is not to suggest that there are no monolinguals in South Africa. It would have been possible to find monolingual Zulu native speakers in the remote rural areas of KwaZulu-Natal but the problem would have been that such subjects would most likely have been completely illiterate and, therefore, would not have been able to handle the tasks, or understand poorly the concept of proportionality required in the ME task. Even if they were literate to a limited extent, they would not have been comparable to the experimental group in other respects.

6.3.1.2 Exposure to TL input

What is striking about the subjects in the experimental group are the differences in their exposure to and their use of Zulu. From the responses to the questionnaire on language background the vast majority of the experimental subjects have very limited exposure to the target language. For those subjects who were at primary, high and first year university levels they only have contact with Zulu in the classroom situation and they only use Zulu when doing their homework or any other classroom work in the Zulu language classes. Most of them only ever attempted to speak in Zulu in their Zulu conversational and pronunciation classes. None of them had ever used Zulu when talking to friends, family or society at large and none ever listened to programs on Radio Zulu or watch Zulu drama and movies on CCV TV²⁰ or attempt to read Zulu novels and newspapers. Judging from the responses on the questionnaire the lower level learners never use Zulu outside the classroom situation with any regularity. The majority of subjects in this group had lived in a Zulu speaking environment (in that they lived in KwaZulu-Natal where the predominant language is Zulu) although they had very little contact with native speakers of Zulu outside the classroom or their places of work²¹.

²⁰ CCV TV stands for Contemporary Community Values Television Viewing.

²¹ This is expected because of the political history of South Africa. The "Group Areas Act" meant that different ethnic groups had very little contact with each other and even after all the changes the "residues" of that Act still divide different ethnic groups hence contact across races is still very minimal.

However, for those experimental subjects who were at their third and final year of university study and the research students, the situation is different. These subjects use both English and Zulu with their friends and colleagues, read Zulu newspapers and novels, listen to programs on Radio Zulu and watch drama and movies on CCV TV. But like the other subjects in the lower proficiency levels, they exclusively use English with all their family members. For teachers, Professors journalists and TV news readers, they use Zulu most of the time at work and with friends, but like the other groups, they do not use the language with their family members, unless for a few subjects who claimed they use Zulu when showing off (what they called) “their impeccable Zulu” to those family members living abroad.

There were also very few subjects in this group who had a very unique and more “hallowed” use for Zulu. These were the Ministers of the Gospel. These subjects use Zulu when preaching among the “lost sheep” of their Zulu “folk” in order to try and bring them back to the house of God.

To recapitulate: the subjects varied in terms of age and proficiency in the TL. They were also learning Zulu in various places and thus they also differed in terms of exposure to the TL. They were differences in the uses they put Zulu to. While the more advanced learners may use Zulu much more frequently, the low levels learners do not. These differences obviously have implications on the manner in which their level of proficiency in Zulu is to be determined.

6.3.1.2.1 Measuring Proficiency in the TL

Thomas (1994) comments that the assessment of L2 proficiency in SLA research is highly suspect especially in experimental designs where information about proficiency and the techniques by which proficiency levels are determined are often impressionistic. Thomas suggests that TL proficiency is a poorly controlled factor in SLA research. Cowan & Hatasa (1994) also state that “L2 researchers ... face a serious problem in finding a

satisfactory proficiency measure". Cowan & Hatasa suggest the use of a proficiency test that has "high reliability coefficients" and is "readily obtainable". An attempt was made at rigorously assessing the subjects' proficiency in the TL by making use of a proficiency test that aims at testing global proficiency in the language.

First, since the study is developmental in that data was collected from learners at different stages of IL development, the most practical and perhaps, the easiest way of grouping learners would have been to use the number of years that such learners have spent studying Zulu at school and at university as a criterion. This would have meant that subjects in a particular grade or class are regarded as being in the same developmental stage. However, this would not have been a very reliable criterion considering that the subjects had different experiences with the TL input. The input the subjects were exposed to varied among subjects in both quality and quantity. Some subjects, for example, had private tuition in the TL outside the institutional setting. Even inside the institutional setting, there were differences because some subjects were taught by native speakers while others were taught by non-native speakers. In addition, some subjects (especially those from KwaZulu-Natal) were learning Zulu in a native speaking environment which meant that they had more exposure to the TL input than those who were learning Zulu in a non-native speaking environment.

Considering the political history of South Africa, the mere physical presence of subjects in a native speaking environment could not guarantee that these were in a better position in terms of exposure to the TL than those subjects in non-native speaking environments because they may have resisted Zulu as an acquisition target for political reasons (Long 1993). But this is not to suggest that their presence in a native speaking environment is not an advantage, because although they may not have wanted to acquire Zulu (for whatever reasons), they are exposed to some positive input.

Lastly, the number of teaching hours for Zulu varied to a considerable extent among institutions. Schools and universities in the KwaZulu-Natal province offered more teaching

hours of Zulu per week than those in the Gauteng region. With such variation in the quality and quantity of input among subjects, there was need to find an alternative criterion for determining the subjects' level of proficiency in the TL in order to group them into different IL developmental stages. It was decided that the scores on an independent test of the TL should be used instead. Therefore, a cloze test was used because research in language testing has shown that a cloze procedure provides an "at-a-stroke" (Oller 1973) measure of overall language proficiency. We discuss the procedures followed in constructing an appropriate cloze test used as a proficiency measure in the next section.

6.3.1.2.1.1. The Cloze Test

Shaugnessy & Zechmeister (1994) propose that an ideal proficiency test needed in this case is one that would be easier to administer and one whose validity and reliability has been established. Being a heuristic study, there was a drawback in getting a "readily available" proficiency measure whose validity and reliability had been established either in South Africa or anywhere else. It was then decided that the optimal test under the circumstances would be a cloze test, in this case a fixed-ratio cloze (Alderson 1979; Weir 1990; Bachman 1985)²². The rationale in using a cloze test was that it is simple, easy to construct and administer. In instances where there are large numbers of subjects, and different markers have to be used, a cloze test can be assessed in a fairly objective manner and it is easily amenable to statistical analysis. There is also a higher degree of reliability among the different or individual markers and it also has a higher degree of reliability in terms of scoring.

The rationale in using a cloze procedure is that it gives a global idea of proficiency and thus gives a general estimate of the learners' general mastery of the language system

²² As Bachman (1985) points out, a fixed-ratio and rational deletions cloze are equally reliable and have equal criterion validity although, he also notes that in some cases a fixed-ratio cloze could be significantly more difficult.

(Bachman 1985) and helps in discriminating between subjects with respect to this characteristic²³.

In choosing a text for the cloze, it was decided that the passage should be one that is not too difficult for the low level learners or too easy for the advanced learners. It was also reasoned that in terms of content, it should not deal with a specific subject topic which could prove extraneous to the subjects' experiences and thus prevent them from gaining overall understanding of the content. For example, a passage that dealt with traditional Zulu culture and used a lot of idioms or proverbs would prove too difficult for non-native speakers, although it would be fairly straightforward to native speakers. The difficulty level of the text was such that it was accessible to learners at the beginner level and easy to read for those subjects at the top of the anticipated proficiency range (Baker 1989). The text that was chosen dealt with a topical issue in South Africa, namely; "crime" and it was an extract from a famous Zulu novel entitled "Mntanami Mntanami" (My Child, my child)²⁴ written by Sibusiso Nyembezi (see Appendix A1.4).

Being a fixed-ratio cloze, every seventh word was deleted although the first paragraph of the text was left intact in order to provide a general "feel" or context for the story. Again, the last three sentences at the end of the text were left intact. They were sixty eight deletions in all.

6.3.2 Procedures in Administering the Test

In the following sections we describe the procedures undertaken in carrying out the experiment. We start by describing the equipment used.

6.3.2.1 Test Equipment

The equipment used included the following:

²³ Zobl (1992) attributes this to the fact that subjects draw on their knowledge of the topic, discourse constraints, syntax, lexicon and morphology of the language and thus the cloze procedure taps knowledge beyond sentence-level grammatical structure.

²⁴ This is a lament by a parent who watches helplessly as the child gets sucked deeper and deeper into a life of crime.

- (i) The instructions/answer booklet.
- (ii) Questionnaire
- (iii) Tapes
- (iv) Slides

These will be described in detail below.

6.3.2.1.1 Instructions/Answer Booklet

The answer booklet contained answer sheets for the rating and ME tasks (see Appendix A1.05). The instruction booklet contained specific instructions and training on how to take either a rating or an ME task depending on the task that was to be taken in that particular session. A more comprehensive booklet which contained general instructions and explanation as to what an acceptability judgement was had been sent to the participating institutions or individuals one month prior to the commencement of the research (see Appendix A1.06 for English and A1.07 for Zulu). As the research took place towards the end of the academic year, some teachers/lecturers used the rating and ME procedure for revision purposes²⁵. This was done deliberately in order to make the subjects more “task-wise” so that by the time the research commenced, the subjects were already familiar with what was expected of them. This was also meant to reduce the amount of time spent on instructions, as the experiment at university settings had to take place during lesson time so there were limitations on the amount of time the subjects could spend doing the experiment. Thus the instruction booklet that was provided during the research was a summary of the main instruction booklet which had been sent before hand (see Appendix A1.08 for English and A1.09 for Zulu).

6.3.2.1.2 Questionnaire

The questionnaire asked general demographic information and specific information about the languages the subject knew or had learnt after the first language (see Appendix B1.0

²⁵ The ME procedure was used by only one lecturer at the University of Natal. Most claimed it was difficult and they felt they could not use it correctly.

for English and B1.01 for Zulu). The questionnaire also required the subjects to provide information about the details of when and for what purposes they used Zulu for and the reasons why they were learning Zulu. In the questionnaire the subjects were also asked to provide general information such as their age, sex and profession.

6.3.2.1.3 Tapes

The tapes for the test sentences were prepared by the SABC's recording studio belonging to the Zulu News Desk. The test sentences were recorded on tape and voicing was done by a native speaker of Zulu who read both Zulu and English news and was also an on-line presenter on Simunye CCV TV. During the voicing of the sentences, there was a ten second interval before each sentence was read²⁶. The number of the sentence was first read out before the sentence itself. There were two tapes corresponding to each version of the test and since there were two versions of the test, there were four tapes in all. This was done for practical reasons (e.g. in the event that one tape was damaged then there would still be another tape to use).

6.3.2.1.4 Sentences in Slides

The test sentences were professionally prepared into slides by the SABC's Outside Broadcasting technicians. This involved making photographic images of the sentences suitable for being displayed on the wall or board at the touch of the slide button. The reason for presenting the sentences in slide form was that while universities had overhead projectors (OHPs), not all schools had them. Even if all institutions had OHPs these run on electricity and in the event of a power cut or failure the experiment could be interrupted²⁷. Although a slide projector runs on electricity, it can also run on a generator.

The slide projector was placed at the back of each language laboratory and then plugged onto the mains as well as on the generator. This was done so that should there be a sudden

²⁶ It had been established during piloting that ten seconds in between sentences was a reasonable time for both beginners and the most advanced learners.

²⁷ The research took place during the rain season and power cuts were very common as electrical cables were constantly struck by lightning.

power cut or power failure, the slide projector would automatically run on the power from the generator. When operating the slide projector, the researcher simply pressed the appropriate button to let the slide off and the sentence would be shown on the board. The sentences were released as dictated by the tape.

6.3.2.1.5 Research Assistants

Two research assistants were trained to help with the administration of the test. Both were native speakers of Zulu. One, a female assistant, was at the time of the research doing her final year Bachelor of Education Degree at the university of Witwatersrand. She had taught Zulu literacy courses to native speakers of English and Zulu for professional purposes prior to starting her degree. She was a fully trained Zulu teacher although her training had been in the teaching of Zulu to mother tongue speakers. The second research assistant was an MA student who was also a teaching assistant in the Department of Zulu language and Literature at the University of Natal in Durban. He had once worked as a Zulu translator for a legal firm.

Each research assistant was trained to explain and administer the test as both a rating and an ME task. Each assistant was responsible for giving out answer booklets and pens and checked the answer scripts during the training session to see if the subjects had understood the instructions. They also had to check if each subject had entered their identity number on the answer sheets. Both research assistants were paid as required by South African Law.

6.3.3 Procedures

The groups that were used were intact groups. It was not possible to randomly assign subjects to groups so that they could take different versions of the same test at the same time because the research was conducted during term time and there were not many language laboratories that could be free at the same time which had the same facilities required to run the experiment. Secondly, most of the informants were not prepared to take the test after normal school hours or during week-ends since they were not paid. The

only time they could take the test was during lesson time. Most of the departments that granted permission for the research to be conducted in its premises gave their conversation and pronunciation lessons to be used for purposes of conducting the research.

The lessons were each one hour long and took place at different times. The pronunciation classes took place in the morning in the language laboratory and the same students would come back in the afternoon for the conversational class. The reasons for giving these class times for the research was that these were compulsory and most students have to give an explanation beforehand if they are not going to attend and they have to do so in writing. For the two classes the requirement is that they have a 90% attendance record before they can sit for the exams. The teachers reckoned that most subjects would be in those classes. Although, for fear of breach of the law, the subjects had to volunteer to do the test. The Heads of the respective departments had encouraged the students and informed them that it was essential for them to participate in the research as the outcome might be very informative on the future of research in studies on Zulu language learning.

It was decided that each subject had to do both versions of the test. Thus, if in the pronunciation class the sentences were presented to the subjects as an ME task, a different version of the same test was later presented as a rating task in the afternoon class. The subjects were never informed that they were going to take the same test in the next class. If in the morning class the subjects were given a rating task followed by a questionnaire and a cloze test then in the afternoon when they came back for the conversational class they took the ME task. If they had taken an ME task in the morning then in the afternoon they took the rating task.

Repeating the same test with the same subjects is one of the criteria proposed by Sorace (1996a) for maximising reliability. Sorace observes that this has to be done after a lapse of time although the period has to be relatively short. In our case, the time between the tests was a matter of hours. This was mainly due to practical considerations and the reasons for this were: (1) since it was towards the end of the academic year, the research had to be

done in as short a period as possible in order to avoid interrupting the subjects' study time; (2) once subjects know what the test is like, there could be problems of subject attrition or drop out as some subjects may choose to abscond or they may be genuinely ill when the test is taken the second time; and lastly (3) since ILGs are constantly changing the time in-between the tests should be kept as minimal as possible and thus repeating the same test on the same day seemed most reasonable. Since there was a break in-between the tests, this also reduced fatigue effects.

Once the subjects had settled in the language laboratory, the instructions booklet was distributed after which the researcher explained what an acceptability judgement test entailed and what was required of them. In order to make things simpler, especially when explaining how to take an ME task which seemed the most difficult to understand, line length was used to exemplify sentence acceptability. A brief practice session on the ME or rating task (depending on what task was to be done in that particular session) was done. Sentences that were used in the practice session were very simple ones and they were both acceptable and unacceptable but did not involve the structures that were under investigation. After the practice session the subjects were given an opportunity to ask questions relating to anything they had not understood. Instructions and training took place in the informants' primary language.

The subjects were given pens which had a number on it. They were told that the number on the pen was their identity number which they had to write on all their answer sheets. They were informed to bring the pen in the afternoon class and that they will be told what to do with it. When they got to the afternoon class, they were told to use the same pen for the next task. At the end of the research they were then told to keep it.

For those subjects who were not studying, i.e. those who were working in Zulu related jobs, a slightly different approach was used. For those who were working at SABC, they took the test at the SABC Economic news room which has a recording studio similar to the language laboratory used with the subjects who were still at school. However, some of

them had to join the students at Wits as it is only a few minutes walk from SABC Auckland Park. All the journalists joined the Wits students in the morning and the afternoon sessions. Lecturers also joined students but some of them had to take the test after hours. In this case the following was done; they were presented with the main test, followed by the questionnaire and then the cloze. The following evening or afternoon they took the remaining task. Teachers at high and primary schools simply joined their students and took the test with them.

We turn to the manner in which the sentences were presented during the experiment.

6.3.3.1 Presentation Mode

The tape recorded sentences were presented via headphones in a laboratory setting. In order to do this, the subjects were asked to put their head phones on. At first, they heard a quick recap of the relevant instructions for the particular task they were taking. This was followed by the test sentences themselves. For the test, the subjects heard recorded sentences at ten-second intervals and saw the sentences on the board at the same time. The number of each sentence was called out before the sentence was read out or appeared on the board. This was to help the subjects not mix up the numbers. The researcher operated the slide projector to the time dictated by the tape. To reduce fatigue effects, the judgement task was broken into three parts. The first part was ME/RT and this was followed by a five minute break wherein the subjects filled in the questionnaire or went to the bathroom. It was, however, emphasised to the subjects that they should not discuss the test items as this would defeat the purpose of the research. After the five minute break, they took the cloze test which was untimed although most subjects took between 15 to 20 minutes on average to complete it. The judgement test with explanation/training took exactly 45 minutes for the more advanced learners and for the lower learners, especially those who were at primary school it took them an hour. The test itself lasted 10 minutes.

At the end of the second part of the test the subjects were provided with tea and snacks. This was also used as an opportunity for “debriefing” the subjects about the reasons for not discussing the contents of the test with other students in other classes.

We now consider how the data was analysed.

6.4 Procedures for Data Analysis

The procedures followed in analysing data were:

1. First, individual subject files were prepared for the cloze, rating and the ME task.
2. MANOVA (multivariate analysis of variance) input matrices were then set up and these were to run by subject analysis in the three tasks.
3. The SPSS for Windows 6.2 statistical package was used to analyse the data.

6.4.1 Data from Cloze Test and Grouping of Subjects

As stated, the experimental subjects were learning Zulu in various different places and they varied in terms of age and in ZSL proficiency. It was necessary to use an independent measure of their level of proficiency in ZSL (see 6.3.1.2.1). Recall that the cloze was administered to all subjects including the native speaker control group. Thus an appropriate scoring procedure had to be devised before analysing the data from the cloze.

6.4.1.1 Scoring Procedure for the Cloze.

The cloze test was scored in two ways. First, subjects were given a score if they provided exact matches to the missing word. Secondly, close approximations to the missing word were accepted as long as they fitted the passage semantically and syntactically. Thus the scoring procedures that were adopted were the exact word and the cloze approximate of the word used in the text²⁸. In the exact word method, credit is allowed for the

²⁸ Cumming & Berwick (1995) point out that both methods of scoring give highly correlated results.

restoration of the exact word deleted from the main text (Alderson 1990). In the close approximates scoring method, the synonyms of the deleted word or semantically acceptable replacements are accepted. The reason for choosing both methods of scoring was that using the exact method only has limitations because the scores would be deflated in that most of the top candidates' otherwise good responses are counted as incorrect (Baker 1989).

Cumming & Berrick (1995) argue that this problem can be alleviated and discrimination among candidates is possible if the test is longer (and they give an example of between 500 to 700 words) so as to achieve the same numerical spread of the scores. It was reasoned that if the test is too long, for instance, if it is 700 words, this could add to fatigue effects hence the close approximate method was used in addition to the exact method procedure. Thus subjects were allocated the same score if they produced a close approximate or the exact word. As a result, a passage of about 500 words was used.

The list of words that could count as close approximates was compiled by five Zulu native speakers who were also specialists in some aspects of the Zulu language. Two of these were Professors in the Zulu language Department at the University of South Africa. One had written extensively on various aspects of the Zulu language grammar and published a number of articles in the **South African Journal of African Languages**. He had also written two novels and compiled an anthology of Zulu poetry in addition to having translated Ngugi Wathiongo's "Things Fall Apart" into Zulu and had won a prestigious Commonwealth Book price for it. The remaining professor had also written a number of novels in Zulu. He had also written and directed the musical play "UShaka KaSenzangakhona"²⁹. The remaining native speakers who were asked to compile a list of close approximates were Zulu novelists who were working at the University of Natal's Creative Arts Department.

²⁹ This means Shaka the son of Senzangakhona.

6.4.1.2 Analysing Cloze Data

The subjects were grouped on the basis of some cluster of scores being close together. The rationale behind this levelling procedure was that, extreme scores which might otherwise have distorted the real picture in a particular group could be avoided.

There were 68 deletions in all; the scores were converted into a percentage. On the basis of the clustering of scores, the experimental subjects were divided into five proficiency groups, with the beginner group as the most elementary group and with group five constituting the most advanced or near-native group.

In analysing the data from the cloze test, the arithmetic mean of the group scores was calculated. A one way ANOVA with the scores in the cloze test as a dependent variable was conducted in order to determine whether the group means differed significantly. A post hoc Tukey test was conducted in order to determine which of the means differed significantly.

6.4.2 Data Analysis of Acceptability Judgement Test

In analysing the data from the acceptability judgement test, the following procedures were undertaken,

- (i) The raw data with the background information in code was analysed to obtain descriptive statistics on the numbers in groups, gender, age and the score in the cloze test.

A statistical analysis of the raw data from each of the tasks was carried out to obtain:

- (ii) Descriptive statistics such as the mean, mode, median, frequency etc. The types of means calculated for the two tasks were different;

- (a) For the rating task an arithmetic mean was calculated for each sentence-type for each proficiency level.

(b) For the ME task a geometric mean was used instead. Recall that in the ME task there was no uniform preset scale for sentence acceptability and each subject created his/her own individual continuum of acceptability. A geometric mean is an antilog of the mean of logs (or a harmonic mean). It “evens out” the scale in the ME task and thus makes it uniform (Lodge 1981; Sorace 1996a). In some cases where, for some reasons, the subject’s response to a particular sentence was zero, the particular subject was dropped out of that particular analysis because it is not possible to obtain the log of zero.

(iii) An omnibus F-ratio was carried out with the linguistic factor as the repeated measure (i.e. multivariate analysis of variance with repeated measures). The data from both rating and ME task were subject to multivariate tests as follows;

(a) The entire sample, i.e. subjects at all levels of proficiency.

(b) The experimental subjects only.

In this case the native controls were excluded from the analysis. MANOVA tests were carried out with the ZSL group to find out if any subtle changes had taken place in the development of the non-native grammar. Robertson (1992) suggests that subtle changes in the IL grammar are often obscured by the inclusion of data from native speakers. He further states that in studies with a cross-sectional sample of subjects, a statistically highly significant effect of level of language development with the inclusion of native speakers may not be significant without the native control group. In other words, once the native speaker group is removed from the analysis, some of the significance may be lost.

(c) Near-native and native speakers.

MANOVA tests carried out with the near-native and native control group enables one to make a direct comparison of the underlying mental representations for the two groups whose grammars are most stable.

Robertson (op. cit.) states that there is usually very little variation between these groups because the degree of indeterminacy manifest in the very early stages of development has somewhat abated at near-native level. Thus any differences between the near-native and the native control group could be due to differences in mental representations rather than to a transitional grammar (cf. Juffs (1996b)

(iv) Where the F-ratio for the effects (i.e. main and interaction) was found to be significant, post hoc Tukey tests were then carried out to make all pair-wise comparison of means in order to determine which of the means differed significantly. The advantages of using a Tukey test are:

(a) it is very rigorous and captures even the tiniest difference between two means. Therefore, the Tukey reflects only “genuine” differences (Hinton 1995: 131). Using a Tukey test reduces the risks of Type 1 errors (i.e. the risk of rejecting a null hypothesis when it is true).

(b) it allows us to compare any pair of means (i.e. within and between groups) for each pair of conditions to see if their difference is significant. This allows us to carry out comparisons on mean preferences for one sentence-type over another: for example, the preference for the grammatical sentence over the ungrammatical sentence or vice versa. In this case, a significant difference in the acceptability between two sentences indicates a stronger preference for one sentence type over another. It also indicates the determinacy with which the judgement is made. A strong preference would indicate a very definite and determinate judgement while

an indeterminate judgement gives rise to a non-significant difference between the two sentences. Thus a Tukey test shows statistically significant differences on mean preferences both between mean preferences across levels and between different sentence types and within groups.

(v) In instances of missing data on both tasks, a subject who had missing data was automatically dropped out of that particular analysis. In repeated measures designs it is stated that in the case of missing data, a researcher can impute the missing values using several imputation methods (Everitt 1995; Gorbein et al 1992). The imputation procedure was not followed because it was reasoned, in line with Everitt (1996) that “imputation invents data” and thus “leads to over-statement of precision”.

6.4.3 Presentation of the Results

The results of the experimental study will be reported in Chapter 7. The results will be reported as follows;

1. First, we report the ANOVA results of the cloze test and the levelling of subjects.
2. This is then followed by a report of the results on the judgements of tensed C. Tables of means are presented first. These are then followed by a graphic representation of the tabulated means. We report the results of the significant main and interaction effects followed by the results of the Tukey pair-wise comparison of means.
3. In reporting the results of the judgements on both in-built and pseudo-gap topics, we follow the same procedure as in (2).

Chapter 7

The Results

7.0 Introduction

This chapter reports the results of the cloze test and judgement tests on complementation and topicalization. The results on the acquisition of complementation are from the two sub-tests, i.e. *ukuthi* as a complement and *ukuthi-sentential* subjects. We will discuss the implications of the findings on the availability of complementation in the Zulu L2 grammar of native speakers of English, its development in the intermediate grammars and its knowledge representation at ultimate attainment. The results on topicalization will also be from the two sub-tests, i.e. pseudo-gap topics and in-built topics. We will also discuss the implications of the results on the transfer of feature strength in initial state grammars and the development of non-movement in the intermediate grammars and its knowledge representation at ultimate attainment.

7.1. Results of the Cloze Test.

Based on the scores of the cloze test, the subjects were divided into five proficiency levels (excluding the native control group). The experimental subjects were grouped as follows: group one consisted of the most elementary learners or the beginner group (nns1). Group two was the low intermediate group (nns2), while group three was the high intermediate group (nns3). Group four consisted of the advanced learners (nns4) and group five was the most advanced of the non-native groups, i.e. the near-natives (nns5). Group six was the native speaker (Ns) control group. After dividing the subjects into groups, the arithmetic mean of the group scores was calculated. These are reported in Table 4 and a graphic representation is shown in Figure 13.

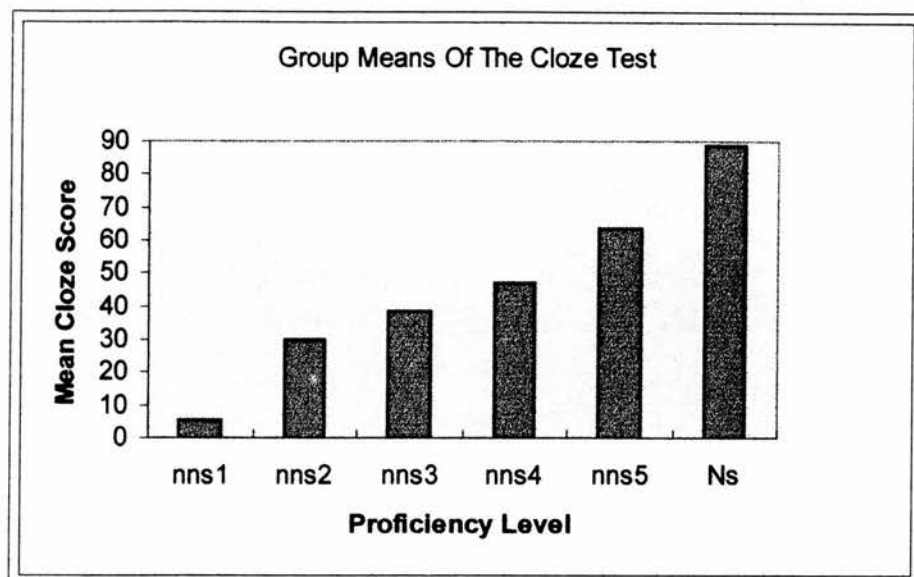
Table 4: Mean Scores and Standard Deviations of the Cloze Test

Proficiency Level	<i>N</i>	Mean Score	<i>SD</i>
nns1	36	5.6667	4.8580
nns2	23	30.0000	3.5929
nns3	36	38.7222	1.2331
nns4	34	46.9412	4.4650
nns5	22	63.9545	5.5590
Ns	38	89.0000	4.2107
All	189	45.8889	27.9501

Table 4 shows that the beginner group is the most elementary of all the groups. This could also mean that being at the lowest level of the proficiency scale, the learners found the cloze test extremely difficult. This is to be expected. As Figure 13 shows, the mean scores increase with increased proficiency in the target language and thus displaying a developmental trend which suggests that the cloze test is valid.¹

¹ The validity of the cloze test had been established during piloting. In the pilot test, the subjects had been given two cloze tests. The results showed a positive correlation in that in both tests, the higher scores in one test correlated with higher scores in the other test, which meant that the tests were able to discriminate between subjects on the basis of the variable that was measured. For the main study one of the cloze tests was used.

Figure 13: Group Means of the Cloze Test (%)



In order to determine whether the differences in the group means were significant, a one way ANOVA with the scores in the cloze test as a dependent variable was conducted. The mean scores of the six groups differ statistically highly significantly ($F_{(5,189)}=1682.9196$, $p<0.0001$). In the Tukey tests, the results of the pair-wise comparisons show that all the six groups differed significantly ($p<0.001$) which suggests that the six groups had been drawn from six different proficiency populations.

7.2. Ukuthi Complement Sentences.

As established in 6.2.2, in order to investigate whether the initial state grammar has complementation and if so whether this is CP-type C or Top-type C acceptability judgements were elicited on sentences with alternative structures which have implications on the representation of complementation. Two sub-tests were carried out and these were on *ukuthi* in a complement position and *ukuthi* as a tensed sentential subject. We made the following general predictions:

1. Beginner learners will transfer all L1 FCs to the L2 initial state and:

- (i) sentences which are consistent with syntactic properties of L1 FCs which may be ungrammatical in the L2 will be judged acceptable by beginner learners.

In the acquisition of complementation we predicted that since English instantiates both C-types, both CP and Top-type C will transfer to the L2 initial state. We predicted that beginners will:

(i) Distinguish between Top-type C sentences and CP-type C by:

(a) Accepting [+comp] sentences across complement types (a CP-type C grammar).

(b) Accepting [-comp] sentences as complement of V and A but rejecting it in verb-object clauses (a Top-type C grammar).

(c) Accepting [+comp] sentences in sentential subject sentences and rejecting sentences with [-comp] in the same position (a CP-type C grammar).

At intermediate stages we predicted that intermediate grammars will be indeterminate. Thus intermediate groups will not discriminate between [+comp] and [-comp] sentences in both *ukuthi* complement and *ukuthi-sentential* subject sentences. Hence:

(i) Intermediate learners will not discriminate between grammatical [+comp] and ungrammatical [-comp] sentences.

At near-native level, we predicted that due to the superset/subset relationship of the L1 to the L2, the underlying grammar at ultimate attainment will be incomplete. It was predicted that the judgements of near-native speakers will be:

(i) random and inconsistent.

In order to test the above hypotheses, the sentence-types that were used (see 6.2.2 for further details) were:

ai) **Sentence-type:** [+ukuthi] as a complement of V

Example: Abafana bacabanga **ukuthi** uThabo usethenge imoto.

*(The boys think **that** Thabo has bought a car).*

bi) **Sentence-type:** [-ukuthi] as a complement of V

Example: *Abafana bacabanga uThabo usethenge imoto.

(The boys think Thabo has bought a car).

aii) **Sentence-type:** [+ukuthi] as a complement of A

Example: Ugogo uqinisekile **ukuthi** abantwana bahlala eThekwini.

*(The old lady is certain **that** the children live in Durban).*

bii) **Sentence-type:** [-ukuthi] as a complement of A

Example: *Ugogo uqinisekile abantwana bahlala eThekwini.

(The old lady is certain the children live in Durban).

aiii) **Sentence-type:** [+ukuthi] in verb-object-complement clauses

Example: Kumele sikhombise imantshi **ukuthi** loku kuqondile.

*(We must show the magistrate **that** this is correct)*

bihi) **Sentence-type:** [-ukuthi] in verb-object-complement clauses

Example: *Kumele sikhombise imantshi loku kuqondile.

*(*We must show the magistrate this is correct).*

In analysing the results of the judgements of *ukuthi* complement sentences, the following procedures were undertaken:

- (1) The arithmetic mean of each sentence-type was calculated for each proficiency level (see Appendix C1.0 for the ME results).

(2) A three-way ANOVA was calculated with complement and *ukuthi* as repeated measures. This was done with all the subjects (see Appendix C1.02) and then with the ZSL group only (see Appendix C1.03) and finally with the near-native and the native control group excluding all the other groups (see Appendix C1.04). The results that will be reported are those of all subjects, unless if there is something strikingly unusual in the ANOVA tests of the other sub-sets of the data then we will report those results.

(3) Post hoc Tukey tests (all at alpha level $p < 0.05$) were carried out to make pair-wise comparisons of means in instances where the effects (main and interaction) were found to be significant.

Table 5 below reports the mean scores of the judgements on the *ukuthi* complement sentences by the six groups and a graphic representation is shown in Figure 14. The control [+comp] sentences (i.e. ai, aii, aiii) have the lexical complementizer *ukuthi* while all the experimental [-comp] sentences (i.e. bi, bii, biii) do not have a complementizer *ukuthi* and are all ungrammatical in Zulu.

Table 5: Mean acceptability scores for *ukuthi* complement sentences

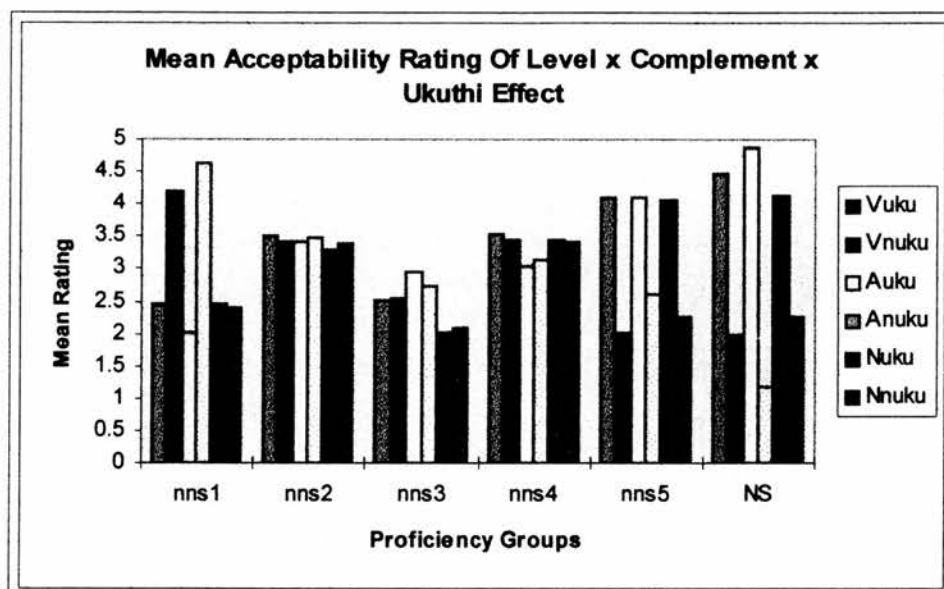
	nns1 (N=36)	nns2 (N=23)	nns3 (N=36)	nns4 (N=34)	nns5 (N=22)	Ns (N=38)	All (N=189)
V+comp	2.4605	3.5217	2.5217	3.5294	4.1136	4.4605	3.4346
V-comp	4.1944	3.4028	2.5417	3.4559	2.0225	1.9770	2.9324
A+comp	2.0227	3.4043	2.9565	3.0588	4.0911	4.8882	3.4036
A-comp	4.6361	3.4826	2.7353	3.1324	2.6189	1.1711	2.9627
C+comp	2.4662	3.2913	2.0227	3.4585	4.0773	4.1447	3.2435
C-comp	2.3816	3.386	2.0909	3.4306	2.2647	2.2632	2.9362
V	3.3275	3.4623	2.5317	3.4927	3.0681	3.2188	3.1835
A	3.3294	3.4435	2.8459	3.0956	3.3548	3.0297	3.1832
C	2.4239	3.3389	2.0568	3.4445	3.1710	3.2040	2.6399
+comp	2.3165	3.4057	2.5003	3.3488	4.094	4.4978	3.3605
-comp	3.7374	3.4239	2.4560	3.3396	2.3019	1.8038	2.8438
All	3.0269	3.4148	2.4781	3.3443	3.1979	3.1508	3.1021

Key: Complement-Types: V-- verb, A-- adjective, C-- verb-object-complement clauses.

Sentence-types: [+comp] -- sentence with lexical complementizer,

[-comp] -- sentence without lexical complementizer.

Figure 14 : Mean acceptability scores for Ukuthi complements



Key: Complement-types: V-- verb, A-- adjective, N-- verb-object-complement clauses

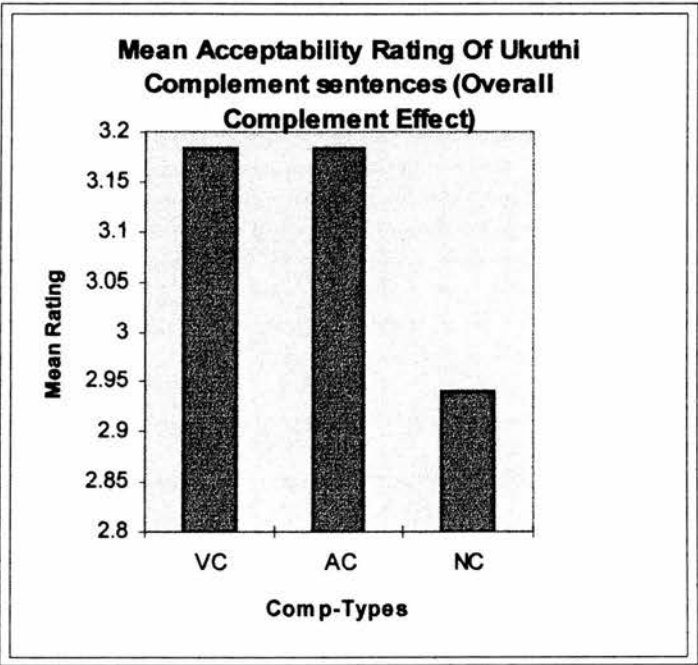
Sentence-types: uku-- [+comp]; nuku-- [-comp].

In Figure 14 the judgements given by the subjects at different levels of proficiency are different. Beginner learners prefer [-comp] sentences in the V and A complements only. The low intermediate group does not discriminate between sentence-types. The difference between the proficiency levels in the overall mean acceptability of sentences is confirmed in the main effect for level of language development in the ANOVA test [$F_{(5,183)}=p<0.0001$]. Tukey tests (tabled at $q=4.03$) show that the difference is due to the judgements of the intermediate group (nns3) in comparison to the most advanced groups.

The pattern of results in the judgements of V complement sentences bears a lot of resemblance to those in the A complement sentences. In the A complement sentences, it is the beginner group that discriminates between [-comp] and the [+comp] sentence. The beginner group has a preference for the ungrammatical [-comp] sentence. The intermediate groups (i.e. the nns2-nns4 do not distinguish between the two sentence-types). Their intuitions are indeterminate. The near-native speakers have a preference for the grammatical [+comp] sentence across sentence-types. Their judgements are similar to those of the native control group.

The results of the judgements of the verb-object-complement clauses are different from those of the V and A complements². This is confirmed by a statistically significant ($F_{(2,366)} = 4.66, p < 0.011$) main effect of complement-type. Post hoc Tukey tests (tabled at 3.38) show that there are significant differences in the pair-wise comparisons of the mean acceptability of the V complement with the verb-object-complement clauses and the comparison between the mean acceptability of the A and verb-object-complement clauses (see Figure 15). The comparison between the V and the A complement does not yield any significant difference. Is there a developmental trend in this discrimination between complements?

Figure 15: Mean acceptability scores for complement effect

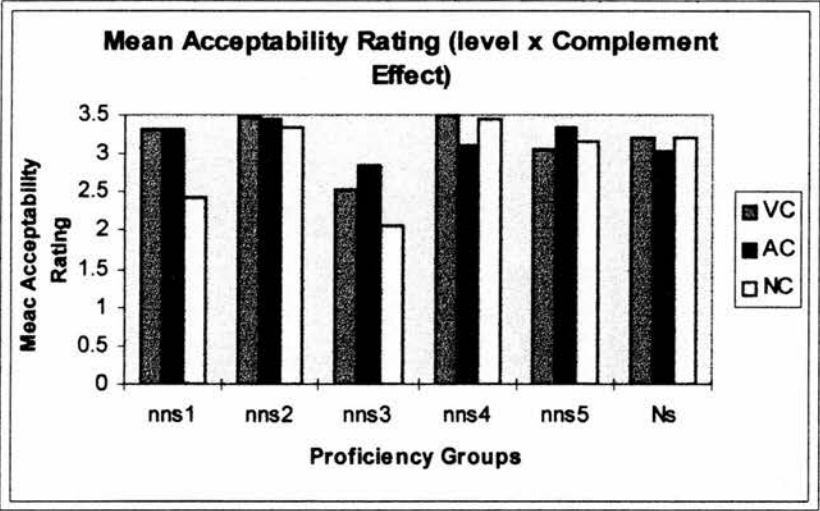


Key: VC--Complement of V.
AC--Complement of A.
NC-- Verb-object-complement clauses.

² It is possible that this discrimination may have nothing to do with the distinction between CP-type C and Top-type C. Because ukuthi is still a complement of a V in verb-object-complement clauses, it is possible that verb-object-complement clauses are treated differently as a reaction to hypotaxis vs. parataxis.

Figure 16, shows that there is a developmental dimension to the discrimination of complements. This is statistically confirmed by a highly significant ($F_{(10,366)}=11.65$, $p<0.0001$) interaction between the main effect of complement-type and that of level of language development. In the pair-wise comparison of means, post hoc Tukey tests (tabled at $q=4.93$) confirm that this significance is due to the judgements of the beginner and the high intermediate groups.

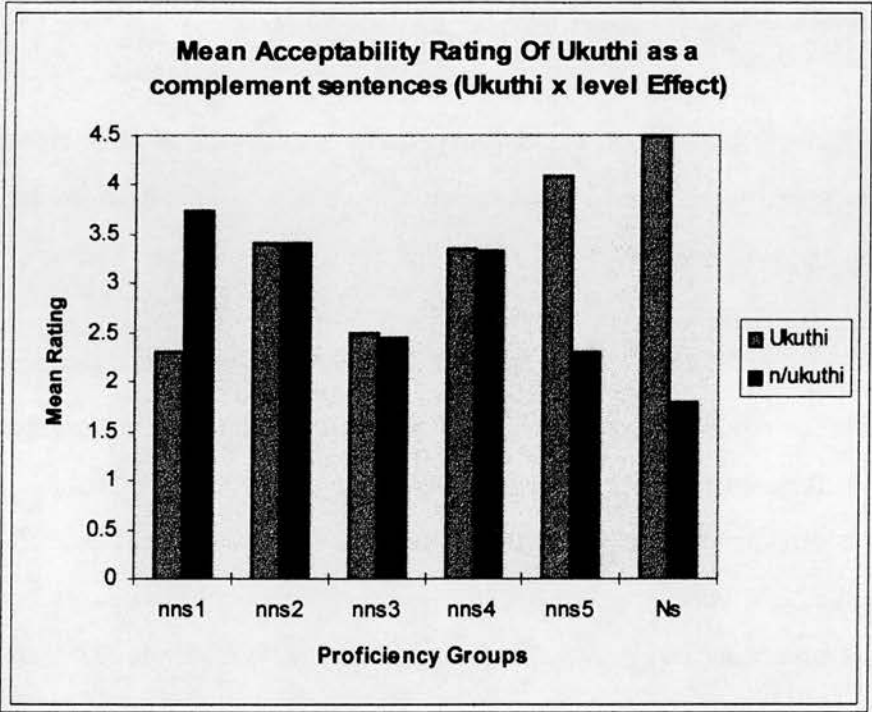
Figure 16: Mean acceptability scores for complement-type by level



Key: VC-- Complement of V.
AC-- Complement of A.
NC-- verb-object-complement clauses.

On the whole, grammatical sentences are accepted more than ungrammatical ones. This is confirmed by a statistically highly significant ($F_{(1,183)}=117.52$, $p<0.0001$) main effect of *ukuthi*. There is a developmental trend in the discrimination of the two sentence-types as confirmed by a statistically significant ($F_{(5,183)}=2.90$, $p<0.015$) interaction of the main effects of *ukuthi* and level of language development. As Figure 17 shows, the beginner group (nns1) discriminates between the two sentence-types and shows a preference for the ungrammatical [-comp] sentence while the near-native speakers and the native controls have a preference for the grammatical [+comp] sentence. How strong are these preferences?

Figure 17: Mean acceptability scores for *ukuthi* by level effect.



Key: ukuthi-- sentence with *ukuthi*, n/ukuthi-- sentence without *ukuthi*.

In the within-group comparisons, post hoc Tukey tests (tabled at $q=4.62$) show that there is a significant difference in the acceptability of the grammatical and the ungrammatical sentence. Beginner learners accept the ungrammatical [-comp] sentence and reject the grammatical [+comp] sentence. In the pair-wise comparisons of the mean acceptability of the grammatical and the ungrammatical sentences by the near-native group, Tukey tests show a significant difference in the judgements of the grammatical vs. the ungrammatical sentence with a strong preference for the grammatical sentence. A similar significant difference is found in the judgements of the native control group. The native control group has a strong preference for the grammatical sentence. For these two groups, their preference for the grammatical sentence is strong and their judgements are determinate. Similarly, the judgements of the beginner group show that their preference for the [-comp] sentence (i.e. the ungrammatical sentence) is strong and their judgements are determinate. The beginner group decisively rejects the grammatical sentence. Beginner learners

decisively reject the [+comp] sentence and accept the [-comp] sentence while the most advanced groups accept the [+comp] sentence like the native control group. The intuitions of the near-native speakers are similar to those of native speakers.

No significant difference is found in the within-group comparisons of the judgements of the two sentence-types by the intermediate groups (i.e. nns2-nns4). These groups do not distinguish between grammatical and ungrammatical sentences. Therefore, their judgements are indeterminate.

As observed, it is the beginner, near-native and the control groups that make determinate judgements. The beginner group does not make determinate judgements in their judgements of the verb-object-complement clauses. This difference in the acceptability of the [+comp] and the [-comp] sentences between complements is confirmed by a statistically highly significant ($F_{(2,366)} = 7.30$, $p < 0.001$) interaction between the main effect of *ukuthi* and that of complement-type. A developmental trend to this interaction is confirmed by a statistically highly significant ($F_{(10,366)} = 6.50$, $p < 0.0001$) interaction of the main effects of level of language development, complement-type and *ukuthi*. Tukey tests (at a tabled value of $q=4.03$) show this difference is due to the judgements of the beginner group.

The beginner group's decisive rejection of the [+comp] sentences in the complement of V and A sentences and their indeterminate judgements of the verb-object-complement clauses is consistent with a Top-type C grammar. Top-type C is instantiated in their L1. This shows that there is complementation at the Zulu L2 initial state. Complementation implicates the projection of a CP. For the beginner group to make use of a Top-type C grammar, there must be a CP projection in their initial ILG. The evidence therefore confirms the predictions that beginner learners will: (1) discriminate between CP-type C and Top-type C by accepting [-comp] in complement of V and A sentences (2) initially avoid sentences with a lexical complementizer due to morphological avoidance. Most importantly, it confirms our experimental hypotheses that (1) the L1 functional geometry

transfers and (2) initial state systems have functional projections. Thus there is no representational deficit at the initial state. Beginner learners have a C-system in their IL representational system.

On the other hand, the absence of a significant preference for either sentence-type by the “middle” could be attributed to competition between alternate stages. While at the initial state the L2 input is processed on the basis of those hypotheses generated through the assumption that the L2 is like the L1, by intermediate stage the lexical complementizer has been morpho-phonologically specified. Possibly, the grammar that is being used is still English. Arguably, at this stage learners are using null and overt that drawn from a syntactic analysis of English, their L1. It could also be that at the intermediate stage learners are using both the grammar of English and that of Zulu although as yet the obligatory nature of Zulu *ukuthi* ‘that’ has not yet been acquired. Thus “middle” groups use both alternative forms drawn from both the L1 and the L2 knowledge source.

The judgements of the advanced group suggest that when complementation and specifically, when the lexical complementizer is finally phonologically specified [-comp] sentences are rejected decisively. The data suggest that the most advanced non-native speakers (i.e. nns5) who decisively reject [-comp] sentences and do not discriminate between complement-types have acquired Zulu complementation. We had predicted that because of the superset nature of English complementation, native speakers of English learning Zulu will not have positive evidence that Top-type C is disallowed and that the knowledge representation for complementation at ultimate attainment will be incomplete. The results show that, contrary to expectations, the knowledge representation for complementation at ultimate attainment converges with native speaker competence. Most advanced learners do acquire Zulu clausal complementation although it is not clear what sort of evidence is used as a trigger for sentential complementation. The results on the acquisition of tensed C suggest that the mental representation for the knowledge of complementation in Zulu L2 is complete and thus similar to that of native speakers.

7.3. Ukuthi-Sentential Subjects

It was stated that the use of a particular CP-type has implications on the judgements of *ukuthi* as a tensed sentential subject (see 6.2.2). A grammar that generates complementation by means of a CP-type C permits a lexical complementizer as a complement of V, A and in verb-object-complement clauses. It also allows a lexical complementizer as a tensed sentential subject. A Top-type C grammar will only allow a null complementizer in complement of V and A sentences but not in verb-object-complement clauses. It will also not allow a null complementizer in a dislocated position such as a tensed sentential subject. Thus if English speaking learners of Zulu are using a CP-type C grammar then they will decisively reject [-comp] sentences in the three complement-types and in a subject position. On the other hand, if they are using a Top-type C, subjects are expected to decisively reject [+comp] sentences in complement of V and A sentences but to show indeterminacy in their judgements of verb-object-complement clauses and in *ukuthi* as a tensed sentential subject. The sentence-types that were used for this test are:

a) **Sentence-type:** [+ukuthi] subject position

Example: Ukuthi usethenge imoto kuyajabulisa kakhulu.

(That he has bought a car is a very good thing).

b) **Sentence-type:** [-ukuthi] subject position

Example: *Usethenge imoto kuyajabulisa kakhulu.

*(*Has bought a car is a very good thing.)*

We hypothesised that judgements on *ukuthi* as a tensed sentential subject will indicate the type of complementation at the initial state. Because English instantiates both CP-type C and Top-type C, the transfer of a CP-type C will enable learners to accept the sentence introduced by a lexical complementizer and reject the sentence without one. It was predicted that beginner learners will:

(i) Distinguish between sentence-type (a) and (b).

In analysing the results, the following procedures were followed,

- (a) The arithmetic mean was calculated for each sentence-type for each proficiency level.
- (b) A two-way ANOVA (with *ukuthi* as a repeated measure) was calculated using the data from all subjects in all levels of proficiency (see Appendix C1.02), with just the ZSL group only (see Appendix C1.03) and with the near-natives and the native control group (see Appendix C1.04). The results that will be reported are those from the ANOVA tests involving all subjects. The outcome of the tests on the sub-sets of the data will only be reported if they are interesting or if there is something unusual in the outcome.
- (c) Post hoc Tukey tests (all at alpha level $p < 0.05$) were carried out to make pair-wise comparisons of means where effects (main and interaction) had been found to be significant in the ANOVA tests.

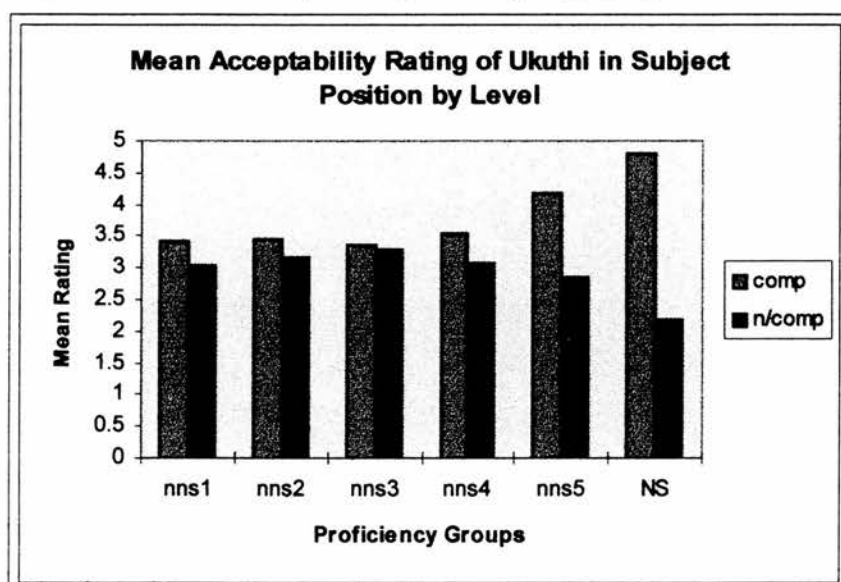
Table 6 reports the mean scores of the judgements on *ukuthi-sentential* subject sentences by the six groups and these are graphically represented in Figure 18. Like the *ukuthi* complement sentences the control sentence [+comp] has a lexical complementizer *ukuthi* as a tensed sentential subject. The sentence is acceptable in both English and Zulu. The experimental sentence [-comp] does not have a lexical complementizer *ukuthi* in the subject position. The sentence is ungrammatical in both English and Zulu.

Table 6: Mean acceptability scores for Ukuthi-sentential subjects

	nns1 (N=36)	nns2 (N=23)	nns3 (N=36)	nns4 (N=34)	nns5 (N=22)	Ns (N=38)	All (N=189)
+comp	3.417	3.435	3.347	3.559	4.171	4.818	3.7912
-comp	3.042	3.152	3.292	3.059	2.841	2.197	2.9305
All	3.2295	3.2935	3.3195	3.309	3.506	3.5075	3.3608

Key: +comp-- [+ukuthi] subject, -comp--[-ukuthi] sentential subject.

Figure 18: Mean acceptability scores for Ukuthi-sentential subjects.



Key: **comp**-- complementizer in subject position.

n/comp-- no complementizer in sentential subject position.

The following trends can be observed from Figure 18: the judgements given by the subjects at different levels of proficiency are different. Low level learners (nns1-nns4) accept both sentence-types. The more advanced groups (near-natives and the control group) have a preference for the grammatical [+comp] sentence. This is confirmed by a significant ($F_{(5,183)} = 2.83$, $p < 0.018$) main effect of level of language development. In the post-hoc Tukey tests (at a tabled value of $q = 4.03$), the pair-wise comparisons of means indicate that this significance is due to the comparisons between the means of the first four

low level learners (nns1-nns4) all in comparison to the most advanced groups: the near-native speakers and the native controls. The near-native group does not differ significantly from the native controls. With the exclusion of the native control group, the main effect of level of language development for the ZSL group barely misses significance ($F_{(4,146)} = 2.41$, $p < 0.052$) which means that the bulk of the significance obtained in the ANOVA test including all subjects was mainly due to the judgements of the native control group.

In Table 6 the low level non-native groups (nns1-nns4) do not discriminate between the grammatical [+comp] and the ungrammatical [-comp] sentence. The indecisiveness in their judgements suggests that the low level learners have indeterminate intuitions in *ukuthi-sentential* subject sentences. This pattern of development is similar to the one evidenced in the judgements of the *ukuthi* in verb-object-complement clauses (see Figure 14). In verb-object-complement clauses the low level learners do not discriminate between the ungrammatical [-comp] and the grammatical [+comp] sentence. This confirms our findings in the *ukuthi* complement sentences. The judgements of the beginner group are consistent with a Top-type C grammar which further suggests the availability of complementation and, by extension, the presence of a CP-layer in the ILG. The judgements of the beginner group also indicate that these learners are tapping something deeper (their knowledge representation) and not merely using “translation strategies” (Kaplan 1993) as there is no reason why they do not accept the control sentence as an equivalent sentence in their L1 is grammatical and the equivalent of the [-comp] sentence is ungrammatical.

Beside the “intermediate” indeterminacy, the mean acceptability of *ukuthi* in subject position increases steadily in the most advanced proficiency group (i.e. from nns5 to the native control group (see Figure 18). This is confirmed by a statistically significant ($F_{(1,183)} = 113.27$, $p < 0.0001$) main effect of *ukuthi*. Does this have a developmental dimension to it?

In Figure 18 the acceptability of *ukuthi* increases in the most advanced proficiency levels which suggests a developmental trend to the acceptability of *ukuthi* sentences. This is

confirmed by a statistically highly significant ($F_{(5,183)} = 20.12, p < 0.001$) interaction between the main effect of level of language development and the effect of *ukuthi*. In the post-hoc Tukey tests (tabled at 4.71), the within-group pair-wise comparisons of means for each sentence-type show that the elementary groups (i.e. nns1 and nns2) and the intermediate groups (nns3 and nns4) do not discriminate between grammatical [+comp] and ungrammatical [-comp] sentences. The low level learners have indeterminate intuitions in the *ukuthi* tensed sentential subject sentences. This replicates the indeterminacy displayed by the same group's judgements of the *ukuthi* in verb-object-complement clauses.

The beginner group (i.e. nns1) has very determinate judgements in the *ukuthi* complement of V and A sentences but does not evidence the same level of determinacy in the *ukuthi*-sentential subjects and in verb-object-complement clauses. Their judgements are consistent with a grammar that generates complementation by means of a Top-type C. On the extreme end of the proficiency scale: near-native speakers and the native controls differentiate between the grammatical [+comp] and the ungrammatical [-comp] sentence. Post hoc Tukey tests indicate that these groups judge the grammatical sentence statistically significantly different from the ungrammatical sentence with a preference for the grammatical sentence. This further replicates the pattern of development shown in the judgements of the *ukuthi* complement sentences. The most advanced learners (i.e. nns5) consistently discriminate between the grammatical and the ungrammatical sentences and decisively reject ungrammatical sentences in both structures.

The results of the judgements of the *ukuthi* sentences can be summarised as follows:

(1) First, the most elementary learners make very determinate judgements but show the "wrong" preference for the ungrammatical [-comp] sentences in the *ukuthi* complement of V and A sentences. Second, in the judgements of *ukuthi* in verb-object-complement clauses, the most elementary learners display indeterminate intuitions. They do not discriminate between the grammatical [+comp] and the ungrammatical [-comp] sentences.

The same level of indeterminacy is replicated in the groups' judgements of *ukuthi* tensed sentential subject sentences. Is this accidental or are these learners using a grammar that disallows *null-ukuthi* 'null-that' in verb-object-complement clauses and as tensed sentential subject?

The judgements of the beginner group are consistent with a Top-type C grammar. Since it is in English rather than in Zulu that Top-type C is instantiated, its presence in the initial Zulu ILG suggests that it has been transferred from the L1. Thus we can reject our null hypothesis that initial state grammars are characterised by missing functional categories. Our experimental hypothesis is confirmed: adult L2 learners transfer their L1 specified functional categories to their L2 initial state irrespective of whether these are marked or unmarked. Top-type C is marked, but it forms an initial mental representation for Zulu L2 complementation for native speakers of English learning Zulu. But why do beginner learners decisively reject sentences with a lexical complementizer or a CP-type C sentence when this is instantiated in their L1? Does this not suggest a deficit in their syntactic knowledge of C?

We propose that since CP-type C is represented in these learner's L1 its absence at the initial state cannot be due to lack of syntactic knowledge of clausal complementation. Its absence is a result of morphological avoidance (see chapter 2). The absence of CP-type C indicates a problem with the realisation of lexical functional elements which has no implications for the syntactic representation of complementation per se. The judgements of the beginner group in both sub-tests suggest that the initial representation of IL consists of both lexical and functional categories transferred from the L1. The judgements of the beginner group can be accounted for in the FT/FA model of Schwartz & Sprouse (1996). To account for the consistent use of Top-type C, we propose that the syntactic correlates of the CP projection in English transfer to the initial state of Zulu interlanguage. The MTH theorists maintain that the L2 initial state consists of lexical projections transferred from the L1. On the assumption that Top-type C implicates the existence of a CP projection, the English-Zulu IL data challenges this position.

(2) The results of both the judgements of *ukuthi* as a complement and *ukuthi*-sentential subjects of the intermediate learners exhibit a prolonged period of indeterminacy. The intermediate groups do not distinguish between grammatical and ungrammatical sentences in both *ukuthi* complement and *ukuthi*-sentential subject sentences. The “middle” groups consistently display indeterminate judgements in both structures. This also confirms our predictions that there will be optionality at subsequent stages of IL development. This optionality in intermediate intuitions could be attributed to grammar competition (cf. Montrul 1996). Since the L2 initial grammar is characterised by the L1 knowledge system, at intermediate stages those aspects of the L2 that the learner has acquired are now in competition with the initial knowledge system (i.e. the L1 final state). The observed optionality at intermediate stages is due to a Top-type C grammar used at the initial state competing with CP-type C which was initially morpho-phonologically underspecified.

(3) The most advanced non-native group (i.e. nns5) and the native speaker group do not discriminate between the three complements in the *ukuthi* complement sentences. It is also the most advanced of the non-native group (i.e., nns5) which discriminates between ungrammatical [-comp] and the grammatical [+comp] sentences in both *ukuthi* complement and *ukuthi*-sentential subject sentences. The most advanced learners have a preference for the [+comp] sentence like the native controls. The advanced non-native groups and the control group are consistent in their preferences for one sentence-type over the other in both *ukuthi* complement and *ukuthi-sentential* subject sentences. Their judgements are consistent with a TL CP-type C grammar.

This suggests that, for the advanced non-native speaker groups, their mental representation for complementation in Zulu approximates that of native speakers. This is contrary to our expectations that due to the “nested” superset/subset relationship between English and Zulu native speakers of English will not have positive evidence that Top-type C is unacceptable in Zulu which we predicted could lead to fossilisation. Instead, the knowledge representation for CP-type C is complete at near-native level. This suggests

that very advanced learners might have access to indirect positive evidence or, may be indirect negative evidence which leads to a complete competence at near-native level. By and large, the development of Zulu L2 complementation by native speakers of English is from L1 influence at the L2 initial state, to optionality at intermediate stages and a convergent competence at ultimate attainment.

We now turn to the judgements on topicalization and see whether these confirm the results on the acquisition of tensed C. In other words, does the acquisition of topicalization provide corroborative evidence of the availability of functional structure at the L2 initial state?

7.4. Pseudo-gap Topics.

To establish whether initial state grammars have underspecified strength values of features under functional heads, judgements were elicited on base-generated topics co-indexed with a gap inside islands. Two sub-tests were carried out to test the acquisition of non-movement in Zulu topic structures. Pseudo-gap topics were specifically aimed at testing whether morphological feature strength transfers from the L1 into the L2 initial state system. In-built topics were used to test whether native speakers of English acquire the base-generated topic position in Zulu. The sentence-types that were used (see 6.2.2 for more details) are:

ai) **Sentence-type:** [+gap] in sentential subject

Example: Loya mfana, ukuthi uphumelele ezifundweni zakhe kwethuse iningi.

**(That boy, that succeeded in his studies surprised many people)*

bi) **Sentence-type:** [-gap] sentential subject

Example: Ukuthi loya mfana uphumelele ezifundweni zakhe kwethuse iningi.

(That that boy succeeded in his studies surprised many people).

aii) **Sentence-type:** [+gap] in wh-island

Example: **Lelikalishi**, ngifuna ukwazi ukuthi uzolithengisa nini.

(**This carriage, I want to know when you intend selling*).

bii) **Sentence-type:** [-gap] wh-island

Example: Ngifuna ukwazi ukuthi uzolithengisa nini **lelikalishi**.

(*I want to know when you intend selling this carriage*)

aiii) **Sentence-type:** [+gap] in embedded clause

Example: **Lengane**, ngicabanga ukuthi ihlala eBhayi.

(**This child, I think that lives in Port Elizabeth*).

biii) **Sentence-type:** [-gap] embedded clause

Example: Ngicabanga ukuthi ihlala eBhayi **lengane**.

(*I think that this child lives in Port Elizabeth*).

In pseudo-gap topics the experimental sentence has a gap (i.e. ai, aii, aiii). In other words, the topic is coindexed with an empty category inside an island. The control sentence has no gap. Recall that the gap and the non-gap sentence are acceptable in Zulu while in English the equivalent gap sentence is ungrammatical because it violates subjacency which forbids extraction inside islands. We hypothesised (H₂) that L2 learners transfer their L1 strength parameters to the L2 initial state. Because English has strong <+Top> features in Top, it was predicted that beginner learners will initially treat the relationship between the topic and the gap inside an island as one of movement and hence they will reject the gap sentences (ai, aii, aiii) and accept the non-gap sentences (bi, bii, biii). It was also predicted that the most advanced learners including the native control group will not distinguish between the gap and the non-gap sentence because they would have acquired non-movement.

The results in the judgements on pseudo-gap topics were analysed as follows,

(1) A geometric mean was calculated for each sentence-type for each proficiency level (see Appendix C1.01 for the rating results).

(2) A 3-way ANOVA was conducted with the data from all the groups (Appendix C1.02), from the ZSL group only (Appendix C1.03) and from the near-natives and the control group only (Appendix C1.04). The results reported here are from all the subjects. The results from the other subsections of the data will only be reported if there is something interesting or unusual about the outcome.

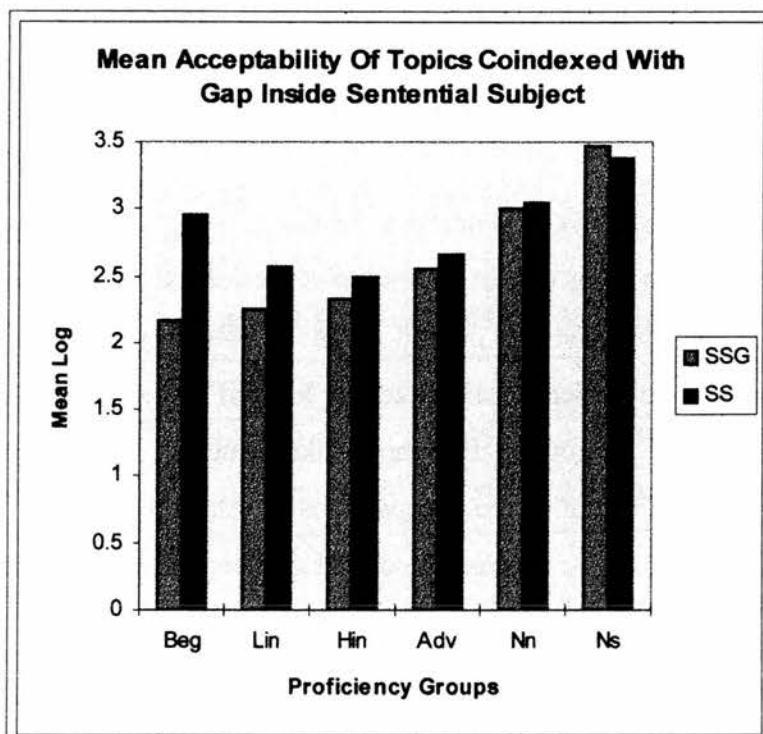
(3) Post hoc Tukey tests (at alpha level $p < 0.05$) were carried out to make pairwise comparisons of means where main and interaction effects were found to be significant in the ANOVA test.

The results of the judgements on pseudo-gap topics are reported in Table 7 and the scores are graphically represented in Figure 19.

7.4.1 Judgements on Sentential Subjects

In the judgements of the sentential subject sentences, beginner and low intermediate groups distinguish between the two sentences (see Figure 20). They have a preference for the non-gap sentence. This preference for the non-gap sentence is higher in the beginner group than in all the other proficiency levels. Besides the low level learners, the more advanced groups, i.e. from the high intermediate and the native controls do not distinguish between the two sentences.

Figure 20 : Mean acceptability scores for sentential subjects



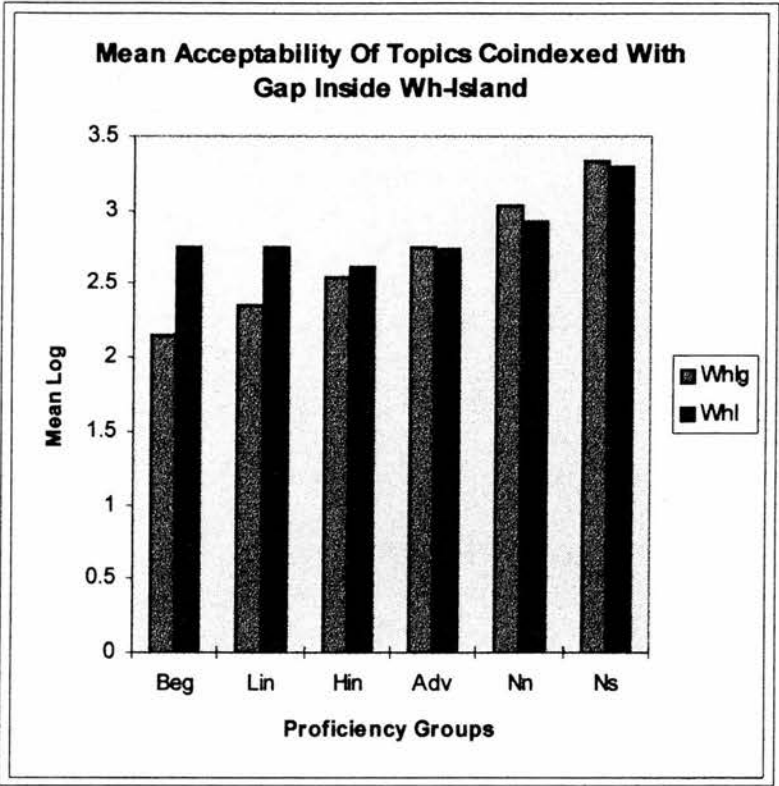
Key: SS-- sentential subject, G -- sentence with gap

7.4.2 Judgements on Wh-Islands

In Figure 21, the results of the judgements on the wh-island sentences replicate those already observed in the sentential subject sentences. In the wh-island sentences, it is also the beginner (nns1) and the low intermediate (nns2) groups that distinguish between the non-gap and the gap sentences. They have a preference for the non-gap sentence. Just like in the judgements on sentential subject sentences, this distinction between the two

sentences diminishes with increased proficiency in the target language (see Figure 20 and cf. Figure 21).

Figure 21: Mean acceptability scores for wh-islands



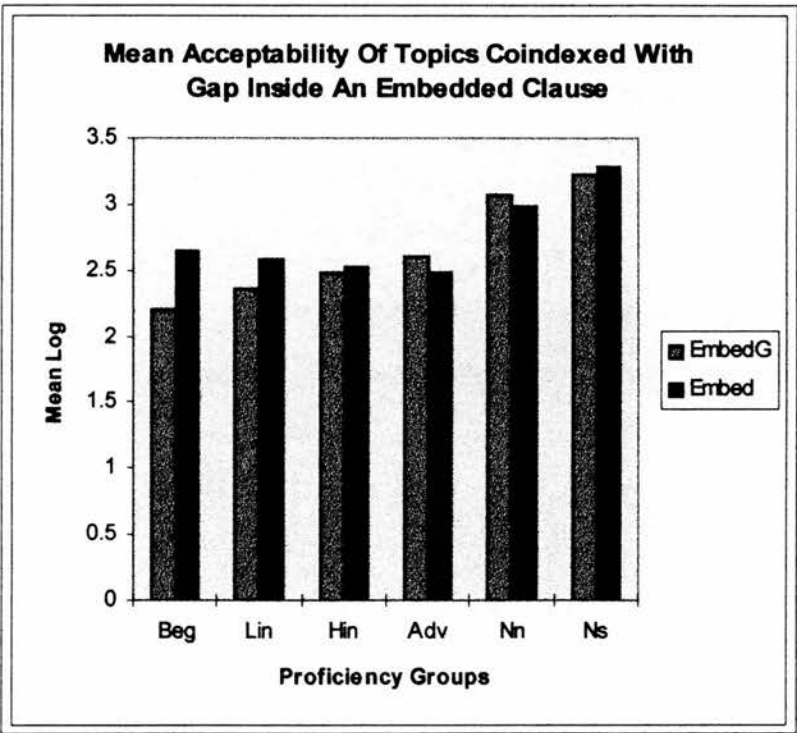
Key: Whl-- Wh-island, G-- sentence with gap.

7.4.3 Judgements on Embedded Clauses

The pattern of results of the judgements on the embedded clause sentences bears a lot of resemblance to the pattern of results already observed in the judgements on sentential subject and wh-island sentences (Figure 20 cf. Figures 21 and 22). In the embedded clause sentences, it is the beginner and the low intermediate groups that make a distinction between the gap and the non-gap sentence. The low-level learners have a preference for the non-gap sentences. Like in the previous island sentences, this distinction between the experimental sentence and the control sentence fades with increasing proficiency in the target language. From the high intermediate to the near-native level including the native

controls the subjects do not distinguish between the two sentences in the three island-types (see Figure 20, 21 and 22).

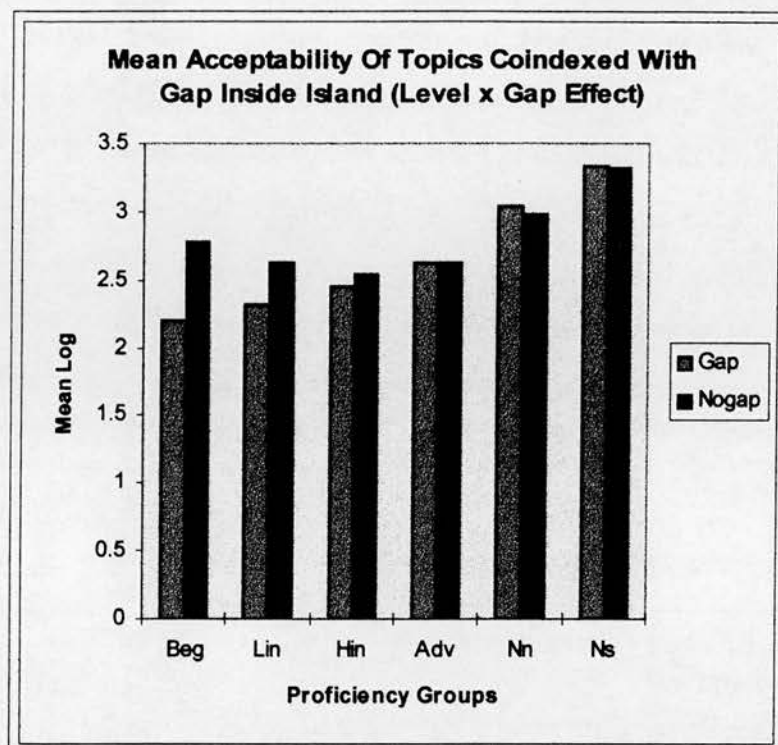
Figure 22: Mean acceptability scores for embedded clauses



Key: Embed-- Embedded clause, G-- sentence with gap.

On the whole, the non-gap sentence is preferred over the gap sentence. This is confirmed by a statistically highly significant ($F_{(1,180)}=14.70, p<0.0001$) main effect of gap. The question is whether there is a developmental trend away from this preference for the non-gap topic sentence. Figure 23 shows that the source of this preference could be the judgements of the low-level learners whose judgements in the three island-types are consistent. In all three island-types these learners have a preference for the non-gap sentence over the gap one (see Figures 20; 21 and 22). This is confirmed by a statistically highly significant interaction between the main effect of level of language development and the gap effect in the ANOVA test ($F_{(5,180)}=11.13, p<0.0001$).

Figure 23: Mean acceptability scores for gap effects.



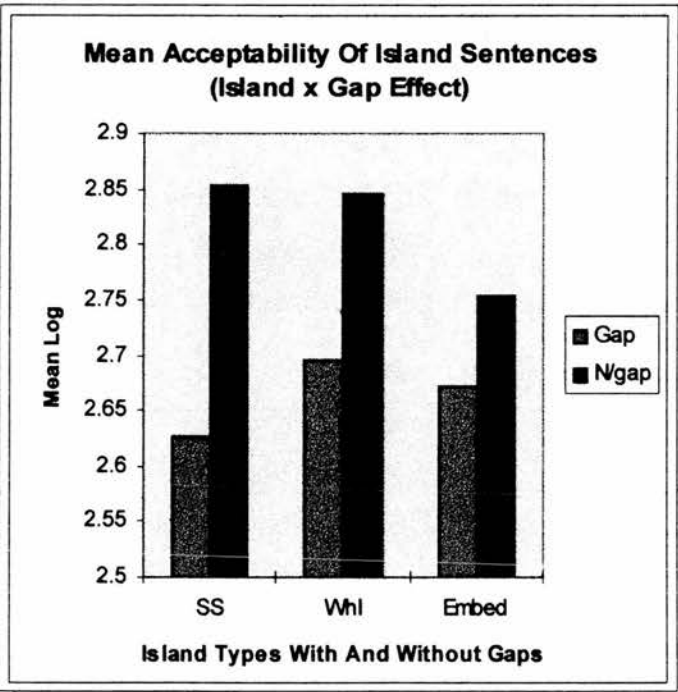
Key: Gap-- sentences with gap; Nogap-- sentences without gap.

In the post hoc Tukey tests (at a tabled value of $q=4.03$), pair-wise comparisons show that the beginner group has a statistically significant preference for the non-gap sentence over the gap sentence (see Figure 23). The beginner group has determinate judgements hence the rejection of the gap sentence which, in their L1, is perceived as a violation of subadjacency. The judgements of the beginner group suggest that feature strength transfers. Topicalization in English bears on the strong $\langle +\text{Top} \rangle$ features. For the beginner group to have a categorical representation shows that the strong features under Top are specified and in turn, that TopP is projected at the initial state and, *ipso facto* that there is a CP projection in their ILG.

As expected, the main effect of island-type is not significant. Its interaction with level of language development yields significance. This is confirmed by a statistically significant ($F_{(10,360)} = 1.95$, $p < 0.038$) interaction between the main effect of level of language development and island-type. Post hoc Tukey tests (tabled at 4.93) show that this

significance is due to the judgements of the high intermediate and the advanced groups. On the other hand, while the non-gap sentence is preferred across island-types, there are differences in its acceptability in some islands. This is confirmed by a statistically highly significant ($F_{(2,360)}=16.25$, $p<0.0001$) interaction of the main effect of island-type and the gap effect. Post hoc Tukey tests (at a tabled value of 4.03) show that there are significant differences in the acceptability of the non-gap sentence in sentential subjects and wh-islands both in comparison to the embedded clause. Surprisingly enough, it seems the embedded clause sentences are treated differently from the other two-island types (see Figure 24).

Figure 24: Mean acceptability scores for gaps across island-types



Key: Island-type: SS-- sentential subject; WhI-- wh-island, Embed--embedded clause.

Sentence-type: G -- sentence with gap; N/gap -- sentence without a gap.

It is not clear why embedded clause sentences are treated differently. While one could speculate that this is an indication of gradience in acceptability or “differential knowledge on extraction domain” (Martohardjono & Flynn 1995) in that some islands give rise to more severe violations than others, this view is not borne out by the facts. As Figure 24

shows, these subjects decisively reject the gap sentence across island-types *but* the differentiation occurs in those very same sentences where extraction has not taken place, i.e. it occurs in those sentences that are acceptable in their L1. Perhaps this has something to do with the construction of the sentence tokens that were used.

In summarising, beginner learners have very strong intuitions and show a strong preference for the non-gap sentences. The preference for the non-gap sentence diminishes with increased proficiency in the target language.

The fact that beginner learners decisively reject the gap sentence across island-types suggests that this sentence is perceived as violating subadjacency. The beginner group treats the relationship between the gap and the base-generated topic as one of movement. Since movement is driven by feature strength, specifically by strong features that need to be checked off before spell-out, the judgements of the beginner group suggest that their underlying mental representation at the initial state has specified strength values of features and in this case it is the <+Top> features that are specified as strong just as in English, the subjects' L1. For the beginner learners to impose a subadjacency constraint in non-subjacent Zulu environments suggests that strength parameters transfer. In the VFH syntactic optionality obtains during a stage of underspecification of morphological strength values. There can never be a categorical representation before the specification of these features. Yet the beginner group has a categorical representation. Thus the values under the functional head Top are not inert; they are specified as <+strong>. Therefore, we can reject the null hypothesis that initial state systems are characterised by underspecified feature strength and accept our experimental hypothesis that adult L2 learners make assumptions about the strength parameters of their TL. Initial state grammars are characterised by a totality of functional structure transferred from the learner's native language.

The intuitions of the most advanced non-native speakers are different from those of native speakers. This could suggest that the underlying mental representations non-native

speakers have of Zulu pseudo-gap topics still retains their L1 form. This is statistically confirmed by the ANOVA results of the ZSL group. The main effect of level is not significant.

7.5 In-built Topics.

In order to establish whether native speakers of English have a base-generated topic position in their ILG, in-built topics were used as a predictor for the acquisition of abstract weak <+Top> morphological features responsible for base-generation. As stated, because an implication relationship exists between the acquisition of in-built topics and pseudo-gap topics the postulation of a base-generated topic position in the ILG should have an effect on the acceptability of pseudo-gap topics. The sentence-types that were used are:

a) **Sentence-type:** [+pre-expression] in-built topic.

Example: *Kubantu bomndeni wakubo, ngazi unina yedwa.*

Speaking of people in her family, I know her mother only).

b) **Sentence-type:** [-pre-expression] in-built topic.

Example: *Abantu bomndeni wakubo, ngazi unina yedwa.*

*(*People of her family, I only know her mother.)*

While in-built topics are generally not acceptable in English, their occurrence is restricted. An in-built topic is only acceptable in English if it is introduced by a pre-expression. It was hypothesised that native speakers of English will transfer their L1 topic structures into their initial state Zulu. It was then predicted that:

1. Beginner learners will have a significant preference for an in-built topic introduced by a pre-expression ($H_1(i)$).

2. Beginner learners will misanalyse the L2 input data and the initial topic NP will be analysed as subject of a sentence ($H_1(ii)$).

In analysing the results of the judgements of in-built topics the following procedures were undertaken:

1. The geometric mean of each sentence-type was calculated for each proficiency level.
2. A two-way ANOVA (with the pre-expression as a repeated measure) was calculated for all subjects (Appendix C1.02), with the ZSL group only (Appendix C1.03) and with the near-native and the native control group only (Appendix C1.04). The ANOVA results that are reported here are those of all subjects. The results from the other sub-sets of the data will only be reported if there is something interesting or unusual about them.
3. Post hoc Tukey tests (all at alpha level $p<0.05$) were undertaken to make pair-wise comparison of means where main and interaction effects were found to be significant.

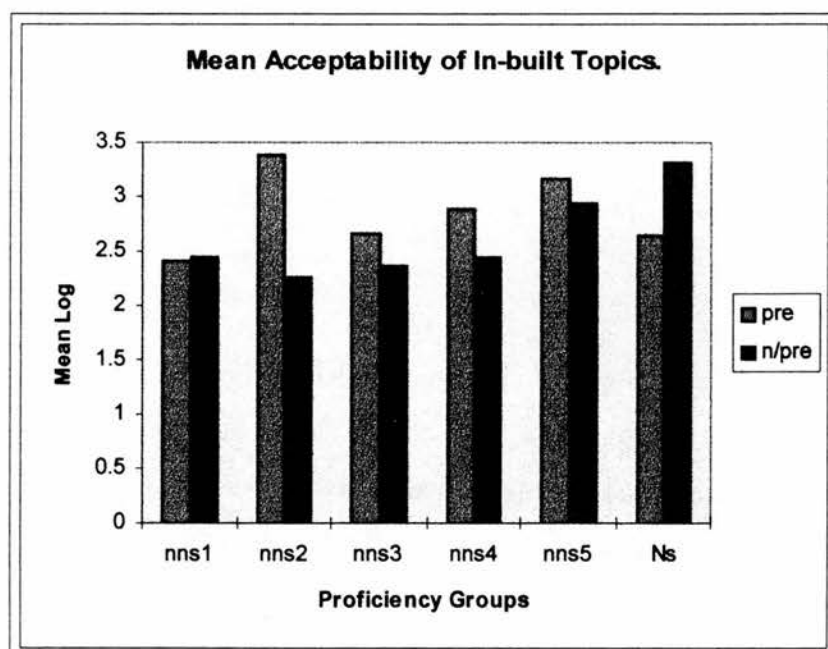
The scores on the judgements of in-built topics are reported in Table 8 and they are graphically represented in Figure 25.

Table 8: Mean acceptability scores for in-built topics.

	nns1 (N=36)	nns2 (N=23)	nns3 (N=36)	nns4 (N=34)	nns5 (N=22)	Ns (N=38)	All (N=189)
Pre	2.412	3.380	2.661	2.897	3.168	2.646	2.8607
N/pre	2.437	2.2660	2.378	2.444	2.940	3.309	2.6290
All	2.425	2.8230	2.5195	2.6705	3.054	2.897	2.7449

Key: Pre--- pre-expression; N/pre---No pre-expression.

Figure 25: Mean acceptability scores for in-built topics



Key: Pre --- pre-expression. n/pre -- no pre-expression.

Figure 25 shows the following trends: the judgements given by the subjects at different proficiency levels differ considerably. While the beginner group accepts both sentences, in the other proficiency levels there is a preference for one sentence-type over the other. The difference in the proficiency levels in the overall mean acceptability of sentences is statistically confirmed in the main effect of level of language development. The main effect of level of language development is significant ($F_{(5,182)}=3.12$, $p<0.010$). Tukey tests (table value $q=4.03$) show that this difference is due to the comparison between the beginner group with the low intermediate, near-native and the native control group. The high intermediate and advanced groups also differ from the near-native and native control group.

The mean scores in Table 8 show that the beginner group does not discriminate between a topic with a pre-expression and one without. Although the native controls distinguish between the two sentences, they show a preference for the sentence without a pre-expression. Unexpectedly, of all the non-native groups, the mean score of the low-

intermediate group shows a marked preference for the experimental sentence (see Figure 25). Except for the beginner group, all the non-native groups distinguish between the two sentences and show a preference for the pre-expression sentence.

This is statistically confirmed by a highly significant main effect of pre-expression ($F_{(1,182)}=37.80$, $p<0.0001$). On the whole, the pre-expression sentence is preferred over the sentence without a pre-expression. The question is whether this preference for the pre-expression sentence has a developmental dimension? There is a developmental trend to this preference and this is confirmed by the ANOVA test. The interaction between level of language development and pre-expression is statistically highly significant ($F_{(5,182)}=5.01$, $p<0.0001$). Post hoc Tukey tests (at a tabled value of $q=4.62$) indicate that this difference is due to the judgements of the low intermediate and the native controls.

As Figure 25 shows the low-intermediate group has a marked preference for the pre-expression sentence. From the low intermediate up to the most advanced non-native group, i.e. near-natives, the pre-expression sentence is accepted over the sentence without. But how strong are these preferences? In the Tukey tests, the within-group pairwise comparisons of means show that the low intermediate group has a statistically significant preference for the sentence with a pre-expression. The judgements of the low intermediate group are determinate. The low intermediate group decisively rejects the in-built topic without a pre-expression and accepts an L1-like topic structure introduced by a pre-expression.

The rest of the non-native speaker groups (from high intermediate up to near-native) show a preference for the pre-expression sentence although their preferences are not strong to the extent of reaching significance level. In other words, although the more advanced learners of Zulu still prefer the pre-expression sentence, this reflects a preference and not a fundamental difference in their perception of the two sentences.

The native control group has a statistically significant preference for the sentence

without a pre-expression. As established, the in-built topic with a pre-expression is not, theoretically, ungrammatical. It is felt to be redundant or stylistically heavy³. However, the significant rejection of this sentence-type by native speakers suggests that this is a case of theoretical optionality. Native speakers have a categorical representation for in-built non-gap topics.

In summarising: beginners do not distinguish between a topic introduced by a pre-expression and one that is not. The absence of a significant preference for either sentence-type is unexpected as we had predicted that beginner learners will decisively reject the sentence without a pre-expression⁴. Unexpectedly, it is the low intermediate group which makes a strong preference for the topic introduced by a pre-expression. In the exception of the beginner group, all non-native groups have a preference for the topic introduced by a pre-expression.

We predicted that at the initial state: L2 learners will make use of native-like topic structures and (2) that they will misanalyse the L2 input data and that the Zulu topic NP would be analysed as a subject NP because of the similarities between the two languages in terms of canonical word order. Our predictions (i.e. (2)) are borne out by the data. Considering that English is a subject prominent language, the absence of a significant preference of either sentence-type is subtle evidence of transfer. English L2 learners of Zulu misanalyse the topic NP as a subject NP and accept the sentence without a pre-expression on the basis of a wrong structural analysis. In this case, it would be accepted

³ The acceptability of each sentence-type may be regionally based. While it is indisputable that there could be regional variation in the realization of in-built topics or any other aspects of the Zulu grammar, native speakers who formed the control group were from different regions. Their judgments were similar which suggests that regional variation may not have been a factor here. However, it was observed during piloting that native speakers who had lived abroad (in the UK) for more than five years had different intuitions from those who had just arrived in the UK. They preferred the pre-expression topics although *they did not outrightly reject the in-built topic without a pre-expression*. However, a Zulu-speaking Professor of Zulu language at UNISA in Pretoria has indicated to me that in-built topics without a pre-expression are the accepted form in Zulu whereas those introduced by a pre-expression may only be *tolerated* by those native speakers who are constantly exposed to the variety of Zulu spoken by foreigners.

⁴ It has been argued that the judgments of the beginner group are consistent with Eubank's VFH model. Beginner learners therefore accept both alternatives because the strength values of features under <+Top> are "unspecified". We will return to this point.

on the basis of being an IP rather than a topic structure. The fact that an L1 structural analysis is used at beginner stage suggests that adult L2 learners are using the L1 knowledge system at the initial state. Thus we can reject our null hypothesis and accept our experimental hypothesis that the L1 final state constitutes the L2 initial state.

It is possible to argue that the fact that the beginner group accepts both alternatives is in line with Eubank's VFH. Because English permits in-built topics introduced by a pre-expression, it has "residual" weak <+Top> features while Zulu has weak <+Top> features. In Eubank's analysis, the acceptability of both alternatives would suggest that their initial mental representation is not strictly residual weak <+Top> instantiated in their L1 or the weak <+Top> features instantiated in their TL. If the strength values of features transfer, then English native speakers would have accepted a syntactic correlate of "residual" weak <+Top> features instantiated in their L1. Thus they would have decisively rejected the topic sentence without a pre-expression and accepted an in-built topic introduced by a pre-expression. Similarly, if they had acquired the Zulu weak <+Top> features, then they would have decisively accepted the syntactic correlate of these features, i.e. an in-built topic without any pre-expression. The fact that the beginner group does not distinguish between the two sentence-types suggest that L2 learners' initial representation is neither English-like (their L1) nor Zulu-like (their TL). The strength values at the initial state are still unspecified.

Although this argument is persuasive, it is not incontestably supported by the empirical evidence presented here. Recall that in Eubank's account, if the knowledge of the TL abstract morphological features is incomplete, the syntactic correlate cannot be consistently instantiated. In other words, there cannot be a categorical representation before the abstract morphological features are acquired. Yet the low intermediate group rejects the TL-base-generated in-built topic without a pre-expression for the native-like pre-expression sentence. The question is: why does a more advanced group lapse back into a categorical representation of L1 strength values which supposedly do not transfer?

We propose that the L2 initial representation of IL consists of specified strength values transferred from the L1. It is possible to argue that due to morphological avoidance, beginner learners are just ignoring the morphology of the pre-expression. This further explains why there is a decisive rejection of this sentence at the next proficiency level. Low intermediate learners have acquired the knowledge that Zulu IPs are generally subject-less but as yet, no proper structural analysis has been assigned to the in-built topic. The learners are "conservative" (Towell & Hawkins 1994) and they choose to maintain the L1 structure instead. This is further confirmed by the fact that all the other non-native speaker groups show a preference for the pre-expression sentence which shows the pervasive influence of the L1 even at the most advanced stages. Note that between-groups, Tukey tests show a significant difference in the acceptability of the in-built topic without a pre-expression sentence between the most advanced non-native speaker group (i.e. near-native) and the native speaker group which indicates differences in intuitions on this particular sentence-type. The beginner, high intermediate and the advanced groups differ significantly with the near-natives and the native control group. The low intermediate group differs significantly from the near-natives. Since near-natives also differ from the native control group, this is quite revealing on the nature of the ILG. These differences in intuitions suggest that the ILG at advanced stages might be incomplete.

It is also worth noting that in the judgements of in-built topics, the pre-expression sentence is significantly preferred over the sentence without a pre-expression. Similarly, in the judgements of the pseudo-gap topics, it is the non-gap topic that is significantly preferred over the gap sentence. Could this suggest that base-generation in Zulu topics has not been acquired? In order to answer this question we need to establish whether an implication relationship exists between the acquisition of in-built topics and that of pseudo-gap topics. We examine the results of the regression analysis where in-built topics were used as a predictor for the acquisition of base-generation.

7.6. Regression Analysis: In-built Topics as Predictor

To test the existence of a topic position in the subject's ILG, in-built topic sentences were used to predict the acceptability of the three gap topics. The results of the simple linear regression tests reported in Tables 9-11 indicate that in the three island-types, learners must first acquire in-built topics before they accept pseudo-gap topics.

Table 9: Simple linear regression of sentential subjects using in-built topics as predictor:

df	R ²	t-ratio	p
143	36.3%	5.75	0.0001

The regression Equation is $TSS = 1.20 + 0.637 IBT$

Table 10: Simple linear regression of wh-islands using in-built topics as predictor

df	R ²	t-ratio	p
144	18.8%	5.75	0.0001

The Regression Equation is: $BTWh = 1.94 + 0.563 IBT$

Table 11: Simple linear regression of embedded clauses using in-built topics as predictor.

df	R ²	t-ratio	p
144	13.6%	5.74	0.0001

The regression Equation is : $Embed = 2.14 + 0.587 IBT$

In Tables 9-11, in all the three island-types the t-values in the three predictions are statistically highly significant. This suggests that the subjects' judgements on in-built topics are a predictor for the status of the island sentences in their English-Zulu ILG, i.e. whether there are base-generated or not (see Yuan 1995 for similar arguments for Chinese). As the estimated regression coefficient is positive, this indicates that the relationship between in-built topics and the pseudo-gap topics is such that as knowledge of in-built topics

increases so does the knowledge that gaps corresponding to a topic are not a result of movement and that the topic is base-generated.

The results of the regression analysis confirm the results of the judgements in pseudo-gap topics. We predicted that as acceptability of the pre-expression decreases, the acceptability of the gap sentence will increase and so will the knowledge that gap topics are base-generated. The acceptability of the pre-expression does not decrease with increasing proficiency in the TL. This suggests that although base-generation has been acquired (as shown by the near-natives' acceptability of gap sentences), it still retains L1 preferences. This is confirmed in the judgements of the in-built topics where the pre-expression sentence is significantly preferred over the in-built topic without a pre-expression. This suggests that although non-movement has been reset, the grammar of near-native differs from the TL. This indicates that native speakers of English have not as yet posited a base-generated topic position in their Zulu ILG. This is further confirmed by the fact that even the most advanced non-native speakers still have a preference for the pre-expression sentence. Their judgements differ considerably from the native control group. While we predicted that the acquisition of topicalization in Zulu would be complete for native speakers of English, this is not borne out by the results. Non-movement is acquired, but there is still an L1 holdover.

The judgements of the in-built topics indicate that English speaking L2 learners of Zulu have not constructed a native-like mental representation of grammatical knowledge for non-movement. In the intermediate groups learners accept both the gap and the non-gap sentence which are acceptable in the TL. The acceptability of both alternatives by the intermediate groups (i.e. the high intermediate and advanced learners) might be a reflection of indeterminacy as a result of restructuring. This is also supported by the judgements of the low intermediate group. At the low intermediate stage the initial hypothesis formulated at the L2 initial state is revised and the learners create a new system with a categorical representation for topicalization. At the next developmental stage learners restructure their internal representations of the TL resulting in backsliding and

loss of the categorical status for the pre-expression topics (cf. McLaughlin 1990). In the pseudo-gap topics, low intermediate learners have a preference for the non-gap sentence but as they reorganise their internal representational framework of the IL, this results in the two alternatives (i.e. the gap and the non-gap sentence) being acceptable at the next proficiency groups. Therefore the judgements of near-native speakers on pseudo-gap topics reflect the acquisition of non-movement. The representation of non-movement is therefore complete with respect to pseudo-gap topics. Because of an implication relationship between in-built and pseudo-gap topics we would therefore expect the near-natives' judgements to closely approximate those of the control group in in-built topics. The fact that near-natives have a different preference from native speakers suggests that the non-movement analysis they have constructed for Zulu topicalization is different from the TL grammar. The representation of non-movement is therefore a divergent one.

To summarise: this chapter has shown that in the acquisition of tensed C, the results suggest the availability of complementation and the presence of a CP projection in the early ILG. In the acquisition of topicalization, the evidence presented suggests that the subject's ILG has specified strength parameters. Specifically, English native speakers obey subjacency in non-subjacent Zulu environments suggesting the existence not only of functional structure, but also of the specification of these features in our beginner learners' ILG. For native speakers of English to impose a subjacency constraint suggests that movement is obligatory in their initial English-Zulu ILG and not optional as suggested in the VFH. The initial state grammar shown in the acquisition of both complementation and topicalization is in line with Schwartz & Sprouse's (1996) Full Transfer/Full Access model. The L2 initial representation of the IL consists of both lexical and functional categories together with strength values of morphological features transferred from the L1.

Developmentally, we also noted that learners did not have an initial state grammar characterised by optionality. Optionality set in at subsequent stages as a result of competition between co-existing grammars, and in our case it was the L1 final state which

constituted the L2 initial state competing with the newly acquired TL system. In the next chapter we discuss the findings of this investigation. We focus on the questions which this research sought to answer, i.e. we examine (1) the nature of initial state grammars with respect to the availability of functional structure, (2) the extent to which L1 functional structure is represented in initial state grammars, (3) the extent to which optionality is characteristic of developing IL grammars and whether it is resolvable, (4) whether the availability of positive evidence necessarily guarantees rapid acquisition by examining whether the superset/subset relationship or the marked/unmarked dichotomy has an effect on the usability of the available positive evidence and lastly, (5) the nature of the knowledge representation at ultimate attainment and the factors which could have lead to its development.

8.0 An Overview

This thesis is about the extent to which L1 functional categories are represented at the L2 initial state and how the general functional architecture of the ILG evolves from this initial state up to ultimate attainment. The basic assumptions which this investigation was based on were (1) the L1 final state constitutes the L2 initial state (2) the L2 initial state system has a complete functional geometry transferred from the L1 (3) depending on the initial hypothesis formulated at the L2 initial state, the underlying grammar at near-native level may be complete, incomplete or divergent. It was further assumed that if with regard to complementation and topicalization the ILG has missing functional categories (FCs), then judgements of English speaking elementary learners of Zulu will be random, inconsistent and indeterminate as these learners will not have any mental representation for syntactic correlates of any functional projection. It was further assumed that at ultimate attainment if, with regard to complementation and topicalization, the ILG is incomplete or divergent, then near-native intuitions will not coincide with those given by native speakers. If the judgements given by near-native subjects are indeterminate or inconsistent then their underlying grammar is incomplete while if their judgements are consistent and determinate but different from those of native speakers, then their underlying grammar is divergent.

The goal of this thesis has been to provide evidence that initial state systems have a CP projection with specified strength values of features under the functional heads C and Top. It has also been the goal of this thesis to show that the functional architecture at the initial state is foregrounded by the functional geometry instantiated in the L1. Second, it has been the aim of this thesis to explore the nature of IL development from this initial state up to ultimate attainment. The success of this thesis in this endeavour depends on the extent to which the experimental evidence presented provides insight into (1) the nature of the initial state grammar with respect to the availability of functional structure (2) the extent to which L1 functional structure is shown to be part of the initial mental

representation at the L2 initial state, i.e. whether it is just FCs without their strength values at the initial state or whether it is the whole functional structure *in toto* (FCs with specified strength values) and lastly, (3) the knowledge representation at subsequent stages of the two structures that were the focus of the investigation, i.e. complementation and topicalization.

In order to evaluate the findings of this study in characterising the nature of developing ILGs, it is necessary to reject the null hypothesis. Recall that our main experimental hypotheses were under three headings; (1) the initial state (2) subsequent “intermediate” development and (3) ultimate attainment. These were meant to chart the development of complementation and topicalization in the ILG of native speakers of English learning Zulu. Consequently, the experiment investigated whether English speaking L2 learners of Zulu have complementation and topicalization and *ipso facto*, the FC COMP in their initial state grammar and how these syntactic structures evolve up to ultimate attainment. Both complementation and topicalization implicate the projection of a CP. Thus the investigation on the acquisition of tensed C sought to establish whether these learners have complementation in the form of declarative subordination in its L1 form in the very early stages of L2 acquisition or whether they have none at all. The investigation on the acquisition of topicalization sought to establish whether the strength values of features located under functional heads transfer from the L1 or whether these initially have inert values.

A further aim of this enterprise has been to explore how best each of three initial state views captures the nature of the initial state system with respect to the availability of FCs. It was established that of the three initial state views, the Full Transfer and Full Access (FT/FA) model of Schwartz & Sprouse (1996) predicts an initial ILG characterised by a full conservation of the functional architecture present at the L1 final state. The FT/FA predicts that all functional projections present in the L1 are also present at the L2 initial state. Development of the L2 functional architecture is in the form of a restructuring of the initial L1-like form although convergence in the TL grammar is not guaranteed.

Since we used acceptability judgements as test instruments, the proposals of FT/FA predict an initial ILG characterised by definite judgements consistent with what is permitted in the L1 grammar irrespective of whether the L1 form is marked or unmarked, or whether it is a superset or subset grammar, i.e., if the L1 has adopted a superset grammar (as it is the case with native speakers of English learning Zulu tensed C) learners will assume that this is also appropriate for the L2 data. In essence the FT/FA predicted that at the initial stages of acquisition our native speakers of English will treat Zulu like English and thus imposing a superset grammar in the Zulu subset input. This suggests that at the Zulu L2 initial state we would have both *null that* and *overt that*. However, Borer & Rohrbacher (1997) and Prévost (1997) note that at the initial state morphological elements are “avoided” or initially ignored because learners lack the required vocabulary to express the structural knowledge they have. This suggests that our initial state ILG would evidence *null that* as a form of complementation. Secondly, in subsequent stages the FT/FA predicted the onset of optionality as a result of grammar competition in that the L1 knowledge system will be in competition with the newly acquired TL system. Aware of the potential learnability problems of acquiring a TL subset from an L1 superset grammar, FT/FA predicts possibilities of fossilisation resulting from the carrying over of a superset grammar from the L1 as the L2 PLD is obscure.

In contrast, the Minimal Trees Hypothesis (MTH) of Vainikka & Young-Scholten (1996a, b, 1998) predicts an initial state grammar with a missing functional architecture as FCs are presumed not to transfer. In the MTH thesis, FCs are only projected if they have phonetic content. In the case of native speakers of English learning Zulu, the prediction the MTH thesis makes on the nature of the initial state grammar is that there would be *no clausal complementation at the Zulu L2 initial state* as the CP is not projected. Complementation will only be exhibited in the Zulu ILG once the lexical complementizer *ukuthi* has phonetic content. Because we presented our learners with an acceptability judgement task, the prediction made on the basis of the MTH is that the initial state grammar as evidenced by the judgements of the beginner learners will be characterised by inconsistent and random

judgements as learners at this stage do not have any mental representation of functional structure both in its L1 (since FCs do not transfer) and in its L2 form (as it would not have been acquired).

Developmentally the MTH thesis predicted that in subsequent stages when functional structure emerges it replicates the same form in which it appears in the L1 acquisition of the TL. MTH predicts no L1-based development subsequent to the initial state. Thus the MTH predicts that in later stages native speakers of English learning Zulu will exhibit the correct form of complementation in their ILG. The intermediate grammar is expected to evidence indeterminacy in judgements as a result of “overlaps between adjacent stages” (Sorace 1996b). While in the acquisition of Zulu complementation intermediate learners are predicted to display optionality, most advanced learners are expected to evidence completeness in the sense that their intuitions are, under the MTH thesis, expected to be similar to those of native speakers.

Lastly, the predictions of the Valueless Features Hypothesis (VFH) of Eubank (1994, 1996) are not fundamentally different from those of the FT/FA thesis in as far as the acquisition of complementation is concerned. Thus like the FT/FA the VFH predicts that our initial state ILG will have complementation as it is realised in mature English, our subjects' L1, and by extension that there will be a CP projection in this grammar. Thus the main test for the predictive power of the VFH is the outcome of the judgements on pseudo-gap topics. The VFH predicts an initial state characterised by optionality of syntactic movement. Whether the L1 has strong or weak features, the initial state grammar will have valueless features as feature strength does not transfer. This results in the appearance of optionality. However, once the strength values of features under functional heads have been specified, non-movement is expected to become obligatory in the Zulu ILG. Hence optionality is not expected at advanced stages of L2 acquisition. So what do the results show and what empirical and theoretical generalisations emerge from the findings of this investigation?

8.1 Evidence of Complementation at L2 Initial State

As expected, the results reported in this study are incompatible with the predictions of the MTH and, to a very large extent, compatible with the predictions of the FT/FA model. It has already been established that learners in the very early stages of IL development, in our case the beginner group, made very definite or determinate judgements which were consistent with a Top-type C grammar which is instantiated in English. As indicated, beginner learners accepted [-comp] sentences and had determinate judgements in the V and A complement sentences only. In their judgements of the *ukuthi* in verb-object-complement clauses and *ukuthi-sentential* subject sentences, the elementary subjects had indeterminate judgements. This was predicted on the basis that if they transferred Top-type C then their intuitions will be indeterminate in verb-object-complement clauses and in *ukuthi-sentential* subjects. Top-type C is not permitted in these structures.

As indicated, complementation implicates the projection of a CP. The results therefore show that there is a CP projection in the learners' initial ILG for it to make use of a Top-type C subordination contrary to the claims of the MTH that there will never be any transfer of syntactic correlates of L1 functional projections. The Zulu ILG has complementation although this is not the appropriate complementation for the L2. The findings further indicate that L2 acquirers have a complete system of syntactic representation at the initial state although this may not coincide with what is required in the TL grammar. In other words, there is no representational deficit at the level of syntactic computation for these Zulu L2 learners. The judgements of the beginner group are systematic and not random and inconsistent as we would expect if these subjects had no mental representation for FCs. Specifically, their judgements on both sub-tests for clausal complementation were systematic and thus suggest that there is a C-system in their IL representational systems. Therefore, their initial ILG is not agrammatic. We can reject the null hypothesis that initial state systems are characterised by missing FCs.

It has been argued that the availability of Top-type C at the initial state is in line with the proposals of the FT/FA which states that whatever is permitted in the L1 will filter into the

initial L2 grammar irrespective of what is appropriate for the L2 data. It is on the basis of the FT/FA that we predicted a complete conservation of L1 properties at the L2 initial state. But the conundrum these findings reveal is that both CP- and Top-type C are instantiated in English. Now the question this raises is, why do these English speaking learners of Zulu *selectively* transfer Top-type C and not both forms of complementation? In other words, doesn't this suggest that this is *not an instance of full transfer*? Secondly, is Top-type C from the L1 or from UG as suggested in Epstein et al (1996)?

Prima facie, the findings in this study may seem to suggest that transfer is selective. Yet, I would like to suggest that an equally sound conclusion that is legitimate is that the major theoretical import of the FT/FA thesis is that the full L1 syntactic repertoire is available at the L2 initial state. The full syntactic correlates of L1 functional projections is represented at the initial state. Thus *complementation per se*, is available at the L2 initial state although the lexical complementizer may be initially avoided because it is phonologically underspecified. It would seem that native speakers of English, initially rely on the null alternative which is part of their L1 grammatical competence. This explains their consistent use of a Top-type C grammar. However, morphological avoidance suggests that even if English were exclusively CP-type C, native speakers would have relied on a CP-type C grammar without lexical complementizers as these are initially avoided. In fact, this is precisely the case in the Lakshmanan & Selinker (1994) study.

In the Lakshmanan & Selinker study, (the native Spanish subject) Marta and Muriel (native French) who were both L2 learners of English have an initial grammar which has complementation although they do not evidence any use of lexical complementizers in their production data. Both French and Spanish have an obligatory declarative complementizer and one would have expected their initial ILG to be characterised by a preponderance of *overt* that or CP-type C. Yet their ILG does not have, at surface morphology, lexical complementizers, instead it has null complementizers.

While the findings in this study do not lead to a simple conclusion that the lexical complementizer is absent, in the Selinker & Lakshmanan study subjects opted for null complementation suggesting, as we have already indicated, phonological underspecification of the lexical complementizer. As discussed, the initial absence or lack of *overt lexical* complementizers has also been attested in L1 acquisition research. A question that arises is: could this suggest that the MTH may be right after all in suggesting that the L2 acquisition of FCs replicates the same process in L1 acquisition? Unlike the L1 learner, at the initial state the “learner’s L2 innocence” (Kean 1986:87) about L2 structure leads to the wholesale importation of L1 properties into the initial IL grammar such that this lexical learning process is already foregrounded by L1 properties. Although our English speaking learners of Zulu may still have to acquire the phonological matrix for a CP-type C complementation, their initial Zulu complementation is foregrounded by English Top-type C.

Note that while Vainikka & Young Scholten argue for an initial *absence* of FCs *in toto*, the results in this study show that the CP is projected although it is not the appropriate C-system for the TL. Unlike in the Vainikka & Young-Scholten case which argues for an initial grammar without clausal complementation, our Zulu ILG has it since our subjects’ judgements systematically show a Top-type C form of complementation. In the Zulu IL data there is no evidence that initial state grammars lack a CP projection.

We therefore propose that our L2 learners have L1-like syntactic knowledge which we have identified as a Top-type C form of complementation although the lexical complementizer *is* initially avoided. In L2 acquisition, because L2 learners initially transfer the L1 properties into the L2 initial state, the initial form of complementation is drawn from the L1 with the lexical complementizers initially underspecified. The results reported in this study support the view that functional structure is in place at the onset of L2 acquisition although this functional architecture is what is allowed in the L1 and thus inappropriate for the L2.

However, in Epstein et al's account it is possible to argue that the Top-type C grammar evidenced by beginner learners may have been accessed directly from UG and not transferred from the L1. Because Top-type C is instantiated in the L1, I would like to suggest that it is more plausible to assume that this is an instance of transfer. Conclusive evidence for direct access would only be in cases where the FC is not instantiated in the L1 but appears at the very early stages of L2 development.

As our results show, the syntactic properties related to the projection of a functional head C, i.e. clausal complementation, exist in our initial state grammar. This provides further evidence that there is functional structure in this early grammar. The judgements of the beginner group show that native speakers of English have very active syntactic knowledge of complementation which relates to the functional projection CP.

Since the initial Zulu-ILG indicates that the CP is projected we propose that the English-Zulu ILG does not differ, structurally or syntactically, or for that matter morphologically from mature state grammars. The developing ILG does, however, differ from the adult TL grammar in that null C is infelicitous in mature Zulu. This suggests that the locus of the difference between developing ILGs, especially at the initial state, and mature state grammars is not one of absence of FCs or syntactic positions but rather one of phonological underspecification of lexical functional elements.

8.1.1 Gradual Development and Economy

There is a potential ambiguity in the interpretation of the results of the acquisition of tensed C in light of economy principles (see 2.2.1.1). If complementizer-less CPs are interpreted as IPs because of economy considerations, it is possible to argue that the significant acceptance of the [-comp] sentences in the *ukuthi* complement data is an indication that these subjects are past the initial state and that they are already in the full functional projection stage wherein their grammar has an IP but not a CP. Bearing in mind that the initial state grammar is not *ab initio*, this gradual development could be further supported by the results of the in-built topics. It could be argued that the acceptability of

the in-built topic sentence which we argued is a result of the transfer of the IP structure is rather than an indication that these learners are at an IP stage in Zulu although at this stage they have not yet acquired the knowledge that Zulu subjects are not obligatory, thus they treat the in-built topic as a subject rather than a topic. Appealing though this argument may be, it is not supported by the English-Zulu IL data because the very same learners transfer strong <+Top> features which strongly implicate the projection of a CP. This suggests that these learners have a CP projection although this is L1-like. Since the syntactic correlates of the CP evident in these learners' grammar is English-like, then FCs transfer. This IP structure shown in in-built topics is not Zulu-like because Zulu IPs have, predominantly, covert subjects. This is contrary to the claims of the MTH that there will never be transfer effects associated with functional projections. Therefore, the economy analysis does not provide any counter evidence for our results.

8.1.2 Transfer of Marked Forms

The results on the acquisition of complementation indicate that even marked UG forms do transfer into the L2 initial state. Because L2 acquisition does not take place *in vacuo*, CP-related syntactic properties of the L1 foreground CP-related syntactic properties of the TL. An L1 marked value may serve to foreground an unmarked value in the target language. If an L2 learners' initial hypothesis about L2 syntax is that the L2 knowledge system is like the L1, then the L2 initial state system may not *selectively* show marked or unmarked aspects of the L1 knowledge system. This suggests that if the initial hypothesis of L2 syntax is that the L1 is like L2, as our main experimental hypothesis predicts, then both marked and unmarked properties of the L1 filter into the L2 initial state. Thus as predicted by our experimental hypothesis, the knowledge representation for complementation permitted in the L1 will form part of the knowledge representation for complementation at the L2 initial state. As a result, Top-type C transferred irrespective of its status as a marked UG option.

There is also a learnability consideration that if the initial assumption the L2 learner makes includes a marked value, then positive evidence alone is not enough to reset the parameter

to include the required properties in the L2. It is then assumed the resultant ILG would lead to overgeneration and it would be difficult for the learner to change to the required unmarked TL form. However, contrary to expectations, the ILG at ultimate attainment approximates the target language. If native speakers of English are not learning Zulu in a “pathological” manner (which we contend they are not), the findings suggest that it may not be the marked/unmarked dichotomy that determines the nature of the ILG at ultimate attainment. While native speakers of English transfer the L1, which is a superset of Zulu complementation, they are able to access subtle positive evidence suggested in Zobl (1988). We propose that at near-native level learners have access to positive input data from other structures other than tensed C to reset complementation properties. In principle, such PLD could be in the form of *ukuba* ‘whether’-constructions (see chapter 5) which are also CP-type and whose distribution is similar to that of *ukuthi* ‘that’-clauses. The fact that native speakers of English acquire the obligatory nature of the Zulu lexical complementizer *ukuthi* could also be suggestive of the fact that the L1 and the TL grammar are not in any nested relation. Thus we can reject our null hypothesis that initial state grammars have missing functional projections.

However, according to the FT/FA, it is possible that the syntactic analysis used by near-natives is not TL-like. FT/FA assumes that after the restructuring of the initial L1-like grammar learners may access the relevant structures directly from UG as they have full access to UG. Thus even if the ILG approximates the TL grammar, this might be a coincidence as the underlying syntactic analysis may be different

To summarise, we have examined the nature of the initial state grammar as evidenced in the acquisition of tensed C by native speakers of English learning Zulu. It has been stated that the initial state grammar has a CP projection anchored by the L1 CP structure. In the Zulu ILG there is complementation at the L2 initial state although native speakers of English have very strong intuitions for complementation introduced by a null complementizer. Therefore the CP is projected in the initial state grammar, such that the

syntactic properties generated under this CP resemble those permitted in the English grammar.

8.1.3 Prolonged Restructuring Phase

The Zulu IL data shows a prolonged period of indeterminacy. From the low intermediate to the advanced level (nns2 to nns4), learners do not distinguish between grammatical and ungrammatical sentences. This is evident in the judgements of both *ukuthi* complement and *ukuthi-sentential* subject introduced by *ukuthi*. The late acquisition of declarative subordination by English speaking learners of Zulu may be attributed to misleading Zulu positive evidence.

8.1.3.1 Misleading Zulu Positive Evidence

Zulu positive evidence is misleading to English speakers in many respects. Specifically, Zulu basic SVO parallels English SVO word order. If the L2 learners' initial hypothesis or assumptions about the L2 is that the L2 is like the L1, then for native speakers of English, this initial hypothesis is, superficially, *confirmed* by Zulu basic word order in many structures and this leads to "malignant" structural errors which may be very difficult to "unlearn"¹, such as errors of overgeneration.

English complementation accommodates some of the complement sentences generated in Zulu. Consequently, on encounter with sentences with an obligatory *ukuthi* as a complementizer native speakers of English could conclude, erroneously so, that Zulu, just like English, has COMP deletion and thus [-comp] cannot be disconfirmed on the basis of positive evidence. As a result, [-comp] sentences are accepted on the basis of overgeneralization from the L1. This overgeneralization leads to the persistence of [-comp] sentences in the English-Zulu ILG as there is no disconfirming evidence to preempt [-comp] sentences. This obviously leads to some delay (which manifests itself in the

¹ I am greatly indebted to a participant at the WOCAL conference who raised this point.

learners' judgements as a prolonged phase of indeterminacy) in the acquisition of the subordination complementizer *ukuthi*.

As Zobl (1988) states, in such cases the acquisition of the relevant structures (in our case, it is the obligatory nature of the lexical complementizer) depends on very subtle positive evidence (e.g. *ukuba*-clauses) which can only be discerned by those learners in very advanced stages of development, this is possibly the case with native speakers of English acquiring Zulu tensed C. Recall that in chapter six it was indicated that there is a gap between the advanced group and the near-native speakers. We stated that while the advanced group consisted mainly of final year university and research students, the near-native group consists of individuals who had been studying Zulu for a period of well over twenty five years, most of whom were working as teachers, lecturers etc. We therefore propose that the most advanced learners have access to this subtle evidence (i.e. at advanced stages learners use other forms to restructure their grammar). If learners do make use of *ukuba* 'whether'-constructions, it is possible that at near-native level, learners de-learn [-comp]. This could explain why at near-native level, learners' judgements are consistent and determinate and their underlying grammar approximates that of native speakers.

8.2 Nature of Developing ILG: Developmental Optionality.

The three initial state hypotheses do not predict any form of optionality at the initial state in the acquisition of complementation. The VFH predicts optionality at the L2 initial state only in instances where parameters dependent on strength features are involved. FT/FA does not exclude the possibility of 'free' optionality occurring at the L2 initial state as a result of the syntactic structure not being represented in the L1 but required by the TL grammar. The three initial state views do, on the other hand, make different predictions regarding the nature of the ILG at subsequent stages. Both the MTH and the FT/FA predict subsequent stages characterised by optionality but for different reasons. In the MTH optionality is a result of overlaps between adjacent stages of development while in the FT/FA this is due to grammar competition wherein the L1 knowledge system which is

initially used competes with the newly acquired L2 knowledge system. In the VFH, subsequent development should be in the form of sudden loss of optionality and the onset of categorical rules. So what do our results reveal about the nature of IL development?

8.2.1 Optionality at Initial State

In the judgements of *ukuthi* complement sentences, beginner learners do not distinguish between grammatical and ungrammatical sentences in verb-object-complement clauses. We attributed this to indeterminate knowledge as a result of ignorance. Learners cannot have intuitions about structures that are not represented in their current grammar. Native speakers of English use a Top-type C grammar which does not permit a null complementizer in verb-object-complement clauses and as a sentential subject. They at the same time ‘ignore’ the morphology of the lexical complementizer. This leads to indeterminacy. This suggests that there are instances of optionality at the initial state in the judgements of *ukuthi* in verb-object-complement clauses and *ukuthi-sentential* subject sentences.

As indicated, the FT/FA model does not completely exclude optionality at the initial state. In the event that the structure does not exist in the L1 then optionality is expected to emerge². Indeterminate judgements are expected at the L2 initial state if the parameter is not set in the L1. Since the L1 final state is the knowledge system used at the initial state, then “free” optionality is expected as learners cannot have any intuitions about language structures that are not represented in their current grammar. The definite judgements are only expected if, and only if, the form under investigation exists in the L1. Since we have established that native speakers of English use Top-type C and avoid CP-type C, this explains the kind of optionality evident in the beginner group’s judgements in both *ukuthi* in verb-object-complement clauses and *ukuthi-sentential* subject sentences.

² I am greatly indebted to a participant at the WOCAL conference (University of Leipzig, 27 July- 3 August 1997) who raised this point, thus offering an explanation to the optionality that was evident in both the judgments of the verb-object-complement clauses as well as those of *ukuthi-sentential* subjects by the beginner group.

In both cases, because of the system the learners are using in their current grammar, [-comp] is disallowed in these environments and since the subjects have not, as yet, acquired the phonological matrix for the lexical complementizer both the [+comp] and [-comp] have no clear grammatical status at the level of competence for these learners.

8.2.2 Optionality at Subsequent IL Stages

In the judgements of *ukuthi* as a complement sentences learners at intermediate stages do not discriminate between grammatical and ungrammatical sentences. Similarly, the same groups do not discriminate the grammatical and the ungrammatical sentences in the *ukuthi* in a subject position. They display indeterminate judgements in both structures. The initial ILG is characterised by complementation transferred from the learners L1. Therefore the judgements of the intermediate groups suggest that although optionality is evident in the grammar, this is not due to the initial stage (without FCs) competing with the next stage where L2-like FCs emerge, i.e. the “functional projection stage” (Vainikka & Young-Scholten 1994). Our results are consistent with optionality resulting from grammar-competition. The two alternative representations in our subjects’ ILG are a result of the English Top-type C form of complementation competing with a CP-type C grammar. However, as indicated in the previous chapter, this might still be an instance of transfer of the L1 grammar wherein both *null* and *overt that* are used.

Since the starting point of L2 acquisition is the learner’s L1, it would seem that the kind of developmental optionality observed in the “middle” groups (i.e. from the low intermediate to advanced level) in the complement sentences is a result of the weakening of the L1 knowledge system in accounting for L2 input. With more exposure to L2 input the L1-like initial grammar is restructured and this leads to loss of determinacy in the ILG. As the Zulu ILG goes through a period of restructuring, the strength of the L1 knowledge system (in our case Top-type C) weakens on encounter with more L2 input data while the newly acquired TL rule is also not strong enough to be the sole system the learner makes use of.

When the strength of the L1 knowledge system weakens in coping with L2 input data and the newly acquired L2 rule is still not strong enough for the learner to make very definite judgements based on the rule, there is some missing piece of knowledge as to which knowledge system is the correct one hence the learner uses both weak systems (cf. Henry & Tangney 1996). The old form is not quickly discarded once a new form enters the grammar. Instead, “the ‘new grammar’ must gradually win over the old grammar by a system which gradually strengthens or weakens a form according to its occurrence in or absence from the data” (Henry & Tangney 1996:326). As a result, there is grammar competition at the level of mental representation. Thus the intermediate grammar is a kind of ‘hybrid grammar’ in that it is characterised by forms drawn from the L1 and those created on the basis of L2 input.

8.2.3 Resolution of Optionality at Ultimate Attainment

The judgements of the near-native speakers are consistent and determinate. They discriminate between grammatical and ungrammatical sentences in both *ukuthi* in a complement and in *ukuthi-sentential* subject sentences. They accept grammatical sentences in both structures. The subjects at near-native level make preferences identical to those of native speakers. Their judgements are determinate in the three complement-types and in *ukuthi* in subject position sentences. The judgements of near-native speakers indicate that their grammar approximates the native grammar. The results on the acquisition of complementation suggest that the ILG at ultimate attainment is complete and thus advanced learners exhibit a target-like CP-type C complementation. Hence in the acquisition of complementation, English speaking learners of Zulu gradually restructure their ILG by replacing L1 with L2 structures.

As expected, due to the constant rate hypothesis (Kroch 1989), the innovating form, i.e. CP-type C spreads at the same rate in complement sentences as in the *ukuthi-sentential* subject sentences. Hence the resolution of optionality occurs in *ukuthi-sentential* subject sentences at the same level as it does in *ukuthi* complement sentences. CP-type C reaches

categorical status at near-native level in both *ukuthi* complement sentences and *ukuthi-sentential* subject³.

8.3 Developmental Stages: Complementation

On the basis of the experimental evidence on the acquisition of tensed C, it is possible to identify three discrete developmental stages in the ILG corresponding to each stage. We describe these below.

8.3.1 Stage 1: Initial State Grammar (L1 final State)

The initial state grammar or the very early grammar is Top-type C which is transferred from mature English. This suggests that the initial hypothesis that adult L2 learners make about L2 syntax is that the L2 is like the L1. As predicted in the FT/FA model, the syntactic structure of the L1 foregrounds L2 syntax. English Top-type C foregrounds initial Zulu L2 complementation.

8.3.2 Stage 2: Intermediate Grammar (Optionality Phase)

This stage can be characterised as the indeterminate or optionality phase. Since our initial state grammar was L1-like, and since acquisition is an incremental process (see Robertson & Sorace in press), this optionality evident in the intermediate stage is a result of grammar competition. Arguably, the observed optionality in the intermediate grammar is a result of grammar change where one grammar i.e. the L2 is replacing another, i.e. the L1 grammar used at the initial state.

8.3.3 Stage 3: Mature State Grammar (Survival from Optionality)

This stage is the mature state grammar where the L2 parameter values have been reset and optionality is resolved. The most advanced non-native speakers show the same preferences as the native controls. At least, with respect to the acquisition of complementation, this

³ This also reflects a parametric relationship between *ukuthi* in complement and *ukuthi* in a subject position.

grammar closely approximates the TL grammar. This suggest that native speakers of English reset the properties related to COMP in ZSL.

To conclude, the test on the acquisition of tensed C set out to investigate whether initial grammars have missing functional structure or not. The results on the acquisition of tensed C in Zulu by native speakers of English challenge the view that there are “no FCs in initial L2 grammars” expressed in the MTH. Specifically, the Zulu IL data shows that the CP-layer is not missing and, in turn, that complementation is not missing at the initial state. While the MTH claims that marked complementation and CP is not transferred from the learner’s L1, the Zulu IL data challenges this position. Top-type C which is instantiated in the learner’s L1 is active in their initial state grammar, thus suggesting that properties of the L1 transfer. The results on the acquisition of complementation indicate that there is no representational deficit at the L2 initial state. L2 learners have a complete syntactic tree with complete syntactic positions transferred from the L1.

Now what do the results on the acquisition of topicalization reveal regarding the extent to which FCs are represented at the L2 initial state, i.e., whether FCs transfer while the strength values of features located under their functional heads do not.

8.4. Topicalization and Transfer of Feature Strength

The experiment on pseudo-gap topics set out to investigate whether the Valueless Features Hypothesis (VFH) captures the nature of initial L2 state systems with respect to the specification of strength parameters at the L2 initial state. Specifically, the main area of focus in the acquisition of base-generated topics was to test Eubank’s VFH. While the VFH proposes the transfer of functional projections in general, it argues against the transfer of feature strength. Thus the VFH predicts an initial IL system characterised by L1-like functional structure in (all) areas of grammar excluding those that imply feature strength. Regarding syntactic phenomena that implicate feature strength, the prediction in the VFH is that initial state systems realise both options (i.e. strong or weak) before stabilising at the correct strength value. As a result syntactic movement will be optional

during a period when the strength values are underspecified. So what do the results suggest?

8.4.1 Strong <+Top> Features at L2 Initial State

In the judgements of pseudo-gap topics, low level learners discriminate between the gap and the English-like non-gap sentence in the three island-types. The beginner group significantly prefers the non-gap sentence in the three island-types. As indicated, the judgements of the beginner group are determinate. Since in Zulu both the gap and the non-gap sentence are acceptable, this preference for the non-gap sentence can only be attributed to the transfer of movement from English. The dispreference of the gap sentence shows that native speakers of English are treating topicalization as movement. The low level learners, specifically the beginner group, judge the gap sentence significantly different from the non-gap sentence and have a preference for the non-gap sentence. This suggests that the low level learners assume that the L1 strong <+Top> features located under the functional head Top in English are also applicable to Zulu and thus perceive the gap sentence as violating a universal constraint on movement, i.e. subjacency. Subjacency is only applicable in their L1 derivation of topicalization and not in the derivation of pseudo-gap topics in Zulu.

Feature strength drives movement and if learners treat the relationship between the gap and the topic as one of movement, then feature strength transfers into the L2 initial grammar. The results reported here are consistent with an initial state grammar that has strong Top-features contrary to the claims made by the VFH that feature strength does not transfer. The results are compatible with the FT/FA model of Schwartz & Sprouse (1996). Thus we can reject our null hypothesis that initial state systems are characterised by underspecified strength parameters. The values under the functional head Top are not inert. These are specified as strong just like in English, the subjects' L1.

8.4.2 Acquisition of In-built Topics

We predicted that native speakers of English will have a preference for the pre-expression sentence at the beginner level. Because English is a subject-prominent language, we predicted that the initial NP in the in-built topic could be analysed as a subject of an IP as a result of a misanalysis of the L2 input data by beginner learners. It was hypothesised that English speaking learners of Zulu will show an implication acquisition order: as the acceptability of the in-built topic without a pre-expression increases so too will the knowledge that the topic corresponding to a gap inside an island is derived through non-movement even though both are acceptable in Zulu.

Although we predicted that in the acquisition of in-built topics beginner learners will have a strong preference for the L1-like topic structure, i.e. an in-built topic introduced by a pre-expression, this is clearly not borne out by the results. Instead, the results show an initial state grammar characterised by indeterminate judgements as there is no discrimination between the two sentence-types. Unexpectedly, the L1-like strong preference for the pre-expression sentence is evident in the low intermediate group. However, the native controls have determinate judgements and have a clear preference for the sentence without a pre-expression.

The judgements of the beginner group raise questions such as: could it be the case that the grouping instrument used (i.e. the scores in the cloze test) is flawed, in which case the beginner group is, in fact, a more advanced group than the low intermediate group? If not; why does the beginner group evidence indeterminacy while the low intermediate group makes a marked preference for the in-built topic introduced by a pre-expression? If the L1 final state constitutes the L2 initial state as our experimental hypothesis predicts, then why do beginners not prefer what is allowed in their L1 final state? Since language acquisition is an incremental process, why is the L1-like preference so strong in the low intermediate group and not at the beginner stage?

We contend that the grouping instrument is watertight and that the beginner group is the most elementary of the non-native groups. We therefore propose that the lack of “choice” or preference evident in the beginner group is very subtle evidence for transfer and thus suggesting that the judgements of the low level learners (i.e. the beginner and the intermediate groups) show transfer effects from the L1. For transfer to occur, there must be a degree of “apparency” through which a syntactic feature available in the learners’ L1 is assumed (by the learner) to be sufficiently close to the TL form to the extent that it allows for a logical and direct mapping effect. As discussed, Zulu canonical word order is similar to English. Zulu is an SVO language just like English although, unlike English, Zulu is not rigidly SVO. It is this syntactic flexibility in Zulu that renders the topic obligatorily overt over the grammatical subject which can be covert.

We therefore propose that in the early stages of L2 development learners are imposing their L1 grammar on the Zulu input, misanalysing the topic as a subject. On first exposure to Zulu positive evidence, English speaking L2 learners of Zulu encounter in-built topics where the subject is covert (as in 54a) and those where the subject is overt (as in 54b). In (54b) although the subject is overt, it is a morphological subject. As already stated, morphological elements are initially ‘ignored’ hence the morphological subject is treated as if it was covert. Note that the examples given in the judgement test have an overt subject. It is possible that due to morphological avoidance, the morphological subject is initially ignored and this leads to a misanalysis of the initial NP (which is a topic) as a subject.

54a. Lesi sidakwa sithanda utshwala.

(This drunkard likes beer)

[CP [Spec-CP Lesi sidakwa [C [IP [pro [VP sithanda utshwala]]]]]]

54b. Abantu bomndeni wakubo, ngazi unina yedwa.

(People of her family, I only know her mother)

[CP [Spec-CP Abantu bomndeni wakubo [C [IP ng- [VP azi unina yedwa]]]]]

As is well known, English is a subject prominent language. Thus in English topicalization is far less common (Kaplan 1993:70; Green 1996) than in Zulu where topicalization is very productive⁴. In English, in most cases the initial position in a sentence is occupied by a subject, a *wh*-word or a complementizer (Authier 1992; Kaplan 1993). An initial position occupied by an NP easily lends itself to being interpreted as a subject by native speakers of English who are L2 learners of Zulu. If the initial hypothesis L2 learners make about the L2 is that the L2 is like the L1, then the interpretation native speakers of English make of the initial topic NP is that, like in English, it is a subject of the sentence and thus, at the level of mental representation both the pre-expression and the in-built topic (interpreted as an IP) are both acceptable but only on the basis of their L1 structural representations⁵. The in-built topic without a pre-expression is interpreted as a simple IP while the pre-expression sentence is analysed as a topic. As a result, the topic constituent is misanalysed on the basis of the interaction between the L1 knowledge system (which is the system used at the L2 initial state) and the L2 input data. Thus we can reject our null hypothesis that there will never be any transfer of functional structure to the L2 initial state. Our experimental hypothesis is confirmed: the L1 final state constitutes the L2 initial state.

The fact that the beginner group is imposing an L1 structural analysis on Zulu evidence is further confirmed by the judgements of the low intermediate learners. The low intermediate group has determinate judgements. This group accepts the pre-expression sentence which is acceptable in mature English and rejects the sentence without a pre-expression which is grammatical in Zulu. We propose that after the restructuring of the initial state grammar, the low intermediate group evidence a grammar in which English speaking learners of Zulu are more sensitive to the overt and covert nature of subjects in Zulu. The initial hypothesis that the L2 is like the L1 has been revised and a new hypothesis formulated. The in-built topic is no longer interpreted as an IP but no proper

⁴ See Xu & Langendoen (1985) and Yoon (1985) for the productive use of topic structures in Chinese. The same holds for Zulu.

⁵ But note that the Zulu topic has been assigned a wrong structural analysis.

structural analysis has been assigned to it yet, and learners at this stage have very strong intuitions for the pre-expression sentence which is what is allowed in the L1 but not the “unknown” in-built topic structure. We propose that at this stage the learners are “conservative” (Quintero 1992, Towell & Hawkins 1994), not abandoning their L1-like grammatical representation. This explains the low intermediate group’s significant preference for the pre-expression sentence which is what is allowed in their L1.

It is also evident in the results that even the most advanced non-native groups show a preference for the pre-expression sentence, i.e., in the judgements of the high intermediate up to near-native level, the pre-expression is still preferred. While this preference is not strong it nevertheless shows that in this case positive evidence alone is unable to pre-empt a representation formed on the basis of L1 transfer leading to a misanalysis of the L2 input. The continued preference for the in-built topic with a pre-expression suggests that even after restructuring, the L2 input is still not enough to expunge those IL structures based on the L1 which are not attested in the TL grammar. The significant difference in the acceptability of the control sentence between the near-natives and the native control group provides evidence of the differences in their underlying mental representation for topicalization. The question is why native speakers of English are unable to abandon their L1-like structures in Zulu L2?

We propose that if the initial hypothesis of L2 syntax is that the L2 is like the L1, then on exposure to Zulu positive evidence native speakers of English are confronted with *positive confirmation* of this initial hypothesis rather than any positive disconfirmation. It has been pointed out that Zulu is a more inclusive grammar with regard to the range of topic structures permitted in the language. Given that Zulu also allows movement topics and that English marginally permits base-generation (in the form of pre-expression topics), English speaking L2 learners of Zulu would receive positive evidence which *confirms* that Zulu topicalization is like English. As discussed, the manner in which PLD is analysed depends on the hypothesis formulated at the L2 initial state. In the “failure-driven approach” the need for revising or restructuring the existing grammar is only motivated if

there is an “impasse” (Bowerman 1987) in that the adult L2 learner cannot analyse incoming evidence on the basis of the current grammar. But in our case the L1 parameter setting (i.e. movement) is accommodated by some of the L2 input data which suggests that there is no motivation for change from the L1 to the TL. As van Buren & Sharwood-Smith (1985) suggest, positive disconfirmation is more informative to the learner in that it forces the restructuring of the IL grammar.

On the other hand, positive confirmation of the initial hypothesis is uninformative to the learner in that it simply reaffirms the initial hypothesis, thus leading to possibilities of fossilisation. Thus our learners are stuck in “local maxima” in that a cessation of learning occurs and they remain in a non-target state. This explains the significant acceptance of the non-gap sentence over the gap one. The experimental group discriminates between the non-gap and the gap sentence by accepting the non-gap sentence and rejecting the gap sentence despite the fact that both sentences are acceptable in the TL. Similarly, there is a significant preference for the pre-expression sentences over sentences without a pre-expression in the judgements of in-built topics. The preference for the pre-expression sentence over the sentence without a pre-expression and the non-gap sentence over the gap sentence suggests that the ILG has retained some of the L1 properties.

8.5. Developmental Stages in the Acquisition of Topicalization.

It is also possible to identify three discrete developmental stages on the basis of the experimental evidence presented in this study. We describe these below.

8.5.1 Stage 1: Initial State grammar (L1 Final State).

The experimental evidence presented here suggests that the initial state grammar is clearly the L1 final state in terms of both FCs in general and strength parameters. English speaking learners of Zulu imposed an English-like IP analysis on the Zulu in-built topic structures. This initial assumption that the L2 is like the L1 is also evident in their judgements of the gap topics. Beginner learners have determinate judgements and strongly accept the non-gap sentence. Again, this is evidence that these learners are obeying

subadjacency which is only active in their L1 and not in Zulu. Thus the initial state grammar is predictable on the basis of our main experimental hypothesis. There is no evidence of valueless features at the Zulu L2 initial state. Our initial state grammar exhibits full transfer of the L1 properties of topicalization. Thus we can reject our null hypothesis that initial state systems are characterised by underspecified strength parameters. The strength values of abstract morphological features are specified at the L2 initial state. The specification of these features resembles those in the learners' native language. Thus strength values of features transfer from the L1 to the initial representation of interlanguage.

8.5.2 Stage 2: Intermediate Grammar (Hypothesis Revision Phase).

This is a stage of hypothesis revision wherein learners realise that their initial hypothesis that the L1 is like the L2 is not confirmed by the Zulu evidence and that it has to be revised. At this stage although there is the preference for the L1-like structure, the restructuring that is taking place in the grammar is revealed by a slight decline in the acceptability of the native-like structure. However, in the in-built topic although the initial hypothesis is revised and a new hypothesis formulated i.e. a new hypothesis encoding the knowledge that the TL is definitely not like the L1, the similarities of canonical word order in the two languages make it very difficult for the L2 learners, including the most advanced learners to completely abandon the in-built topic with a pre-expression or even showing an L2-like preference for the in-built topic without a pre-expression. Therefore the L1 form is not expunged from the ILG.

8.5.3 Stage 3: Ultimate attainment (Divergent Grammar).

This stage is the mature state grammar. In our case, the mature state grammar exhibited by the near-native speakers is different from that exhibited by the native controls. While in the gap topics, the advanced non-native speakers make native-like judgements and thus suggesting that their intuitions are similar to those of native speakers, their judgements in the in-built topics give a completely different picture. As stated, there is an implication relationship between the in-built topic and the gap-topics. The in-built topic is a predictor or a precondition for the acquisition of base-generation. In the in-built topic the near-

natives still show a preference for the pre-expression topic which suggests that they have not reset the parameter responsible for topicalization. Hence they retain the L1-like value. However, it is possible that base-generation has been acquired. This would explain the acceptability of gap topicalization. Because both gap and pre-expression topics are base-generated, the preference for a pre-expression could be suggestive of an L1 holdover.

On the other hand, the judgements of the near-native speakers on the in-built topics are indeterminate because they do not discriminate between the sentences with and those without a pre-expression while the control group makes a distinction between the two sentence-types. The judgements of the near-native speakers are therefore inconsistent and indeterminate with regard to in-built topics. This suggests that the type of competence at ultimate attainment is one reminiscent of an incomplete ILG. While we would have expected that the acceptability of the in-built topic would have an effect on the acceptability of the gap sentence (in that the acceptability of one implies the acceptability of the other), instead, near-native speakers show variability in their behaviour.

Note that most of the subjects in the near-native group have been learning Zulu for more than twenty years and most are working as Professors and Senior Lecturers in Zulu Language Departments. Given the level of proficiency of these subjects we propose that their ILG is divergent. There is consistency in their judgements in that they accept gap topics and prefer pre-expression topics. Although both are by base-generation, the base-generation analysis they have at ultimate attainment is different from the TL. Although the grammar does not match that of native Zulu speakers, in terms of parameters the two grammars (i.e. the ILG and the TL) do not differ. Both grammars have base-generation in the derivation of topics although with different preferences.

To conclude, the test on topic structures set out to investigate whether initial state grammars have incomplete functional structure as proposed in Eubank's VFH. The VFH model suggests that while initial state grammars have FCs transferred from the L1 the strength parameters of the L1 are initially missing. The English-Zulu IL data presented

here challenges this position. English speaking learners of Zulu at non-near-native levels obey subadjacency in non-subadjacent Zulu environments. This suggests that the strong <+Top> features in English filter to the initial mental representation in these subjects' acquisition of Zulu. We therefore propose, in line with the FT/FA model of Schwartz & Sprouse (1996), that once feature strength has been instantiated in the L1, it becomes an abstract syntactic property of the L1 which is as much subject to transfer as any other L1 structure.

8.6. Emergence of a CP Projection: Full Transfer

The results on the acquisition of complementation corroborates the findings on the acquisition of topicalization. In the acquisition of both CP-level structures the initial state grammar has a full syntactic tree transferred from the L1. FCs are fully represented at the initial state. While the complementation data shows the initial avoidance of lexical FCs, the results on the acquisition of topicalization indicate that the totality of the L1 functional geometry is represented at the L2 initial state. The acquisition data on topicalization shows that FCs together with their morphological strength values transfer to the L2 initial state. The initial state grammar has specified strength values of morphological features. These morphological features are specified to the strength values of the L1 final state. The acquisition data on both complementation and topicalization does not provide any evidence of missing FCs. In both structures the syntactic correlates of the CP projection in the L1 grammar characterise the initial English-Zulu ILG.

So far the emphasis has been on the 'full transfer' of L1 properties into the L2 initial mental representation. This view has been heavily criticised by Martohardjono & Flynn (1995:213) who argue that IL grammars are not mere "collections of transferred L1 structures". The argument against full transfer as expounded by Martohardjono & Flynn is problematic: the assumption made is that stating that the L1 grammar constitutes the initial hypothesis for the L2 grammar (as in the FT/FA) is the same as saying that adult L2 learners have access to UG via the L1 only. Contrary to this misrepresentation, the empirical coverage of the FT/FA indicates that even though the initial state is the whole of

the L1 grammar, L2 learners still have access to UG and thus on first exposure to the L2 input any failure to assign a representation to L2 input data will therefore force the restructuring of the IL grammar and the learner will be drawing from UG options because the learner has “full access” to UG; hence the name Full Transfer/Full Access.

Martohardjono & Flynn seem to suggest that having indirect access to UG implies an inability, on the part of the L2 learner, to activate parameters never set in the L1. The conceptual import of the FT/FA thesis is that L2 learners have both direct and indirect access to UG with indirect access playing a major role in the initial stages of acquisition. In consequence, the greater empirical coverage of the FT/FA accounts for our results. Adult native speakers of English initially transfer their L1 structure into Zulu complementation and topicalization but they are able to reset L1 complementation to the required L2 properties, i.e. the fact that Zulu requires an obligatory lexical complementizer to introduce a subordinate clause. Similarly, the data on the acquisition of topicalization shows de-learning of topicalization by movement by near-natives.

8.6.1. Development of English-Zulu ILG

8.6.1.1 Knowledge Representation at Initial State

It was predicted that beginner learners will transfer the CP projection and its syntactic correlates from the L1 to the L2 initial state. The prediction was that the syntactic correlates of the CP projection in English would be permitted at the Zulu L2 initial state. We further predicted that in early ILG a distinction would be made between sentences that are grammatical in terms of the realisation of the CP projection and its syntactic correlates in the L1 and those that are grammatical in terms of the realisation of the CP and its syntactic correlates in the TL. Specifically, we predicted that at the Zulu L2 initial state, beginner learners will make a distinction between sentences which are grammatical in their L1 but ungrammatical in the TL such that those that are grammatical in their L1 would be significantly preferred at the initial state.

The acceptance of the ungrammatical [-comp] sentences in the *ukuthi* complement sentences indicates that a distinction is made in the initial system between sentences that are grammatical on the basis of an L1 syntactic analysis but ungrammatical in the TL. Note that the analogue of *ukuthi* sentences are also grammatical in English and yet these are rejected significantly at the initial state which seems, *prima facie*, to be contrary to expectations. The fact that native speakers of English evidenced a null type of complementation instantiated in their L1 suggests that complementation properties of the L1 have filtered to the L2 initial state (see 8.1 for discussion).

On the basis of our experimental hypothesis that the L1 final state constitutes the L2 initial state, we predicted that syntactic aspects not realised in the L1 grammar would be “filtered out” at the initial state. The indeterminacy shown by the beginner group in their judgements of *ukuthi* in verb-object-complement clauses and in *ukuthi-sentential subject* sentences suggests that this prediction is borne out by the results of this investigation. In addition, in the acquisition of topicalization we predicted that gap sentences would be, at the initial state, rejected significantly as these would be perceived as violating subadjacency. This prediction is borne out by the data. Low level learners have a preference for the non-gap sentence across island-types with the beginner group making very determinate judgements in all the three island-types. This further indicates that at the initial state, a distinction is made between sentences that are grammatical on the basis of the L1 syntactic analysis and those that are grammatical on the basis of the TL grammar. Beginner learners have very strong preferences for L1-like structures.

With in-built topics we predicted the pre-expression sentence would be significantly preferred over the in-built topic without a pre-expression. We also predicted that because of word order similarities between the two languages and morphological avoidance at the early stages, the phenomenon of subject prominence in English would lead to a misanalysis of the Zulu in-built topic structure at the initial state. Beginner learners do not discriminate between the two sentence-types which we have interpreted as evidence of transfer. Beginner learners misanalyse the L2 input data and assign a “wrong” structural analysis to

the in-built topic. The pre-expression is significantly preferred by the low intermediate group. The evidence further suggests that in early ILG the L2 input is analysed on the basis of the L1 final state. As a result, the null hypothesis that initial state systems will not evidence any syntactic phenomena related to the projection of functional structure transferred from the L1 can be rejected. We can accept our main experimental hypothesis that L2 initial state systems are characterised by a conservation of L1 properties.

8.6.1.2 Knowledge Representation at Intermediate Stages

On the basis of our main experimental hypothesis we also predicted an intermediate grammar characterised by optionality as a result of grammar competition. We highlighted that the different initial state views make different predictions on the nature of the ILG at subsequent (intermediate) stages. We pointed out that the MTH predicts optionality due to an overlap between two adjacent stages. The VFH predicts the sudden disappearance of optional syntactic movement once the strength parameters have been reset while the FT/FA predicts optionality at intermediate stages as a result of grammar competition.

In the structures that were investigated the intermediate groups display indeterminacy. In the *ukuthi* complement and *ukuthi*-sentential subject sentences, the intermediate groups do not distinguish between the [-comp] and the [+comp] sentences. Similarly, in the in-built topics the intermediate groups do not discriminate between the two sentence-types unlike the native speakers. The absence of a preference for either sentence-type by the intermediate groups reflects indeterminacy in the underlying grammar. Given that in both CP-level structures investigated, the L2 initial state is consistently characterised by L1 properties, the indeterminacy at intermediate stages is a result of grammar competition. We therefore propose that in the acquisition of tensed C and topicalization, English speaking L2 learners of Zulu proceed from absolute L1 influence (their L2 initial state) to optionality (at subsequent IL stages).

8.6.1.3 Knowledge Representation at Ultimate Attainment

On the basis of the findings in this study we propose that the nature of the underlying grammar at ultimate attainment depends on the initial hypothesis formulated at the L2 initial state. It also depends on the structural analysis assigned to the particular structure at the initial state. In other words, in L2 acquisition variability of outcome at ultimate attainment is a result of the hypothesis formulated at the initial state. This finding, I would like to suggest, is a major contribution of this study to generative SLA research. A widely held view in generative SLA research is that variability of outcome at ultimate attainment is a reflection of the mechanism responsible for computing grammatical representations shown at ultimate attainment, i.e. whether L2 learners have access to UG or not. For example, Bley-Vroman (1989) attributes variability of outcome at ultimate attainment to the 'fundamental difference', i.e. the fact that adult L2 learners do not have access to UG. Yet in this study learners have UG-constrained knowledge such as subadjacency, but what they seem not to have is knowledge of the PF component.

The acquisition of complementation in Zulu by English speakers has shown that non-native speakers can achieve native speaker competence in the L2 (cf. Ioup et al. 1994; White & Genese 1996 for related arguments). Subjects at near-native level make judgements similar to those of native speakers. They consistently reject [-comp] sentences across complement-types and in a dislocated position (sentential subject position). Their judgements are determinate like those of native speakers. We stipulated that if the underlying grammar is incomplete at ultimate attainment, then judgements given by near-native speakers to sentences testing complementation would be indeterminate and inconsistent. Thus the findings on the acquisition of complementation in L2 Zulu allow us to reject the hypothesis that because of the superset/subset relationship between English (the subjects' L1) and Zulu (the L2), English L2 learners of Zulu cannot reset properties of complementation as there will be no disconfirming evidence which we had predicted would lead to an incomplete competence at near-native level.

We therefore propose that the knowledge representation converges with that of native speakers because the near-natives were able to access indirect positive evidence (e.g. **ukuba** ‘whether’-constructions) in the Zulu PLD which may not have been directly related to complement sentences. As Zobl (1988) states, they had access to very subtle positive evidence which only becomes available in very advanced stages of development. We also propose that the knowledge representation for complementation approximates that of native speakers because English speaking learners of Zulu did not assign a wrong structural analysis to complementation at the initial state.

With respect to the acquisition of topicalization, the knowledge representation at ultimate attainment does not approximate that of native speakers. Near-native speakers of Zulu do not discriminate between the gap and the non-gap sentence just like the native speakers. Prima facie, this suggests, to a certain degree that the ILG approximates the native speaker grammar. However, in their judgements of in-built topics, the near-native speakers do not discriminate between the in-built topic introduced by a pre-expression while native speakers discriminate between these sentence-types. But both sentence-types are by base-generation which suggests that their knowledge representation for topicalization is similar to that of native speakers. However, the difference in the knowledge-types is that although there is base-generation of in-built and pre-expression topics, there is a retained preference for the latter at near-native level. The variability stems from the L1 which was used at the initial state.

We therefore propose that in the acquisition of topicalization, the underlying IL competence of these L2 learners is different from native speaker competence. Recall that the ANOVA results show a significant main effect of gap with a significant preference for the non-gap sentence. We predicted that the ability to reject the gap sentence decreases as the acceptability of the in-built topic without a pre-expression increases. Yet the significant main effect of gap in the ANOVA tests indicates that it is the non-gap topic sentence that is accepted significantly over the gap sentence. Similarly, in the judgements of in-built topics it is the pre-expression sentence that is significantly preferred over the

sentence without a pre-expression. Because of the implication acquisition order we predicted, this is an expected outcome bearing in mind that the three regression analyses were positive and thus suggesting that as knowledge that the in-built topic is base-generated increases so does the knowledge that the topic coindexed with a gap inside an island is by non-movement. As the results suggest, the acceptability of the pre-expression sentence remained high even at the near-native level. Since the acquisition of an in-built topic is a predictor for the acquisition of gap topics the non-significant main effect of level in the ZSL group in the pseudo-gap constructions suggests that the ILG is persistently non-native like even in the most advanced stages. This could be an indication that at the level of mental representation knowledge of topicalization in the ILG of non-native speakers has been reorganised but it still retains the L1 properties.

Now the question is; what sort of knowledge representation do we have at ultimate attainment? Is the knowledge representation incomplete or divergent? As indicated at the beginning of this chapter, if the knowledge representation at ultimate attainment is incomplete, we would expect the judgements of near-native speakers to be inconsistent and indeterminate. On the other hand, if the underlying knowledge representation of the ILG at ultimate attainment is divergent, then the judgements of near-native speakers would be consistent and determinate although it would be different from the L2 (Sorace 1993).

The near-native speakers of Zulu accept the gap sentence and their acceptance of this sentence-type is not significantly different from that of native speakers. By so doing they show that non-movement has been reset hence their intuitions coincide with those of native speakers. However, because the acquisition of in-built topics should have an effect on the acceptability of gap sentences then we would expect the same behaviour in their judgements of in-built topics. We would expect their intuitions on this sentence-type to coincide with those of native speakers. As already indicated, in their judgements of in-built topics without a pre-expression there is a significant difference in their judgement of this sentence-type with the judgements of the native speakers on the same sentence-type.

However, the preferred sentence-type is also by base-generation. This indicates *consistency in their judgements* in that they use a base-generation analysis for all topic structures in their ILG. Hence we propose that the knowledge representation for topicalization at ultimate attainment for our native speakers of English is divergent rather than incomplete.

Note that while native speakers discriminate between the pre-expression sentence and the sentence without a pre-expression, near-native speakers do not make this distinction. Near-natives show a preference for the pre-expression topic but this preference is not strong enough to reach significance level which suggests that their ILG allows both. Thus the grammar at ultimate attainment is divergent as native speakers of English at near-native level accept the gap sentence and for in-built topics they prefer a pre-expression topic which seems to suggest that the underlying grammar with regard to non-movement and the generation of topic structures is different from that of the L1 (which strictly forbids gaps in islands) and from the L2 (which disprefers the pre-expression sentence).

We propose that the ILG at near-native level has retained L1 properties. English, by virtue of permitting in-built topics introduced by a pre-expression indicates that restricted though base-generation is, *it is minimally accepted*. This shows that English does not completely disallow non-movement. In light of the above observation, it follows that, with respect to topicalization, the underlying grammar at near-native level is different from that of the TL, it still has a strong resemblance to the L1 in that it still retains some of the intrinsic properties of the L1 grammar in the ILG. In the ILG, while the gap topics are allowed, in-built topics without a pre-expression still do not have a categorical representation. Hence the ILG has instantiated non-movement although it has retained L1 properties. The question is; what could have led to this acquisition scenario?

The findings on the acquisition of topicalization suggest that there are a combination of factors which could have influenced the development of a divergent knowledge representation (cf. Zobl 1995). These are: (1) the initial hypothesis formulated at the initial

state (2) the nature of the L1 and L2 parameter settings which then prevent English speaking learners of Zulu to completely abandon L1 properties. Although English, with respect to topicalization, is strictly a movement language, it has a restricted set of base-generated topics which designates the language as “residual non-movement”. Yet Zulu has both non-movement and movement topics. As a result, on exposure to the Zulu PLD English speaking learners of Zulu are presented with *conflicting parameter settings* for topicalization. On the one hand, there is positive evidence that confirms their initial hypothesis that English is like Zulu. On the other hand, this initial hypothesis is disconfirmed by the frequently occurring base-generated topics. Clark & Roberts (1993) propose that in such cases the grammar turns on itself and depends on its own internal mechanisms for restructuring: i.e. it does not rely on external evidence. The resultant knowledge representation resembles the L1 grammar. Thus the Zulu ILG resembles English in that it has residual non-movement properties.

In addition, Zulu positive evidence is misleading. This leads to a structural misanalysis of in-built topics. Because the topic is initially misanalysed as an IP, the grammar does not recover from this misanalysis hence the knowledge representation at ultimate attainment is different from that of native speakers.

In summarising: with respect to the acquisition of topicalization, the knowledge representation at ultimate attainment is divergent as a result of an initial misanalysis of the PLD due to the interaction of the L2 input with L1 parameters. The results on the acquisition of topicalization and complementation suggest that the nature of the underlying knowledge representation at ultimate attainment is determined, to a very large extent, by what happens at the initial state. On the basis of the findings in this investigation, one can draw the following conclusions: first, the underlying ILG at ultimate attainment approximates the grammar of native speakers where, on the basis of the initial hypothesis formulated at the L2 initial state, the input is appropriately analysed. For instance, in the acquisition of complementation by English speaking learners of Zulu, complementation at the L2 initial state is appropriately analysed as such, although it is the “wrong”

complementation system for the TL. As indicated earlier (see 3.1.1.2), in Baker's (1979) terms this is a "benign" error which can be pre-empted on the basis of contradictory positive evidence in later stages of development. The grammar then recovers from this "wrong" system and the knowledge representation at ultimate attainment approximates that of native speakers. However, in instances where a wrong structural analysis is assigned at the initial state as a result of misleading PLD: this is a "malignant" error which cannot be pre-empted. By and large, the findings in this study suggest that it is precisely the hypothesis formulated at the L2 initial state which determines the nature of the underlying grammar at ultimate attainment.

8.6.2 Superset/Subset: Learnability in L2A

The arguments from acquisition theory claim that it is easier for L2 learners to move from a subset grammar to a superset grammar. The converse is assumed to be a near impossibility. The argument is that when the L1 is a superset and the L2 is a subset then the acquisition of such structures is a likely candidate for fossilisation. It is also claimed that marked structures do not transfer although as indicated in chapter three there is evidence that these do transfer. The assumption is that it is difficult to start from a marked form to an unmarked one. Similarly, it is also argued that when the L1 is marked and the L2 requires an unmarked setting then the acquisition of that particular structure is a likely candidate for fossilisation as the evidence is obscure. These claims are clearly not supported by the results of this investigation.

Complementation requires that native English speaking learners of Zulu move from a superset grammar to a subset. It also requires these learners to revert to an unmarked setting as the setting in English is marked. A widely held view in SLA is that reverting from a more marked setting to a less marked one is more difficult. The Zulu data reported here suggests otherwise: the L1 values are changed, the underlying grammar at near-native level is convergent to that of native speakers.

On the other hand, while the acquisition of topicalization is expected to be easy and more rapid, the findings in this study refute this claim as well. Zulu topicalization is marked while English is not. Second, as stated Zulu topicalization constitutes a superset of English topicalization. Yet the knowledge representation at ultimate attainment for topicalization is shown to be divergent. If our analysis of the Zulu data is correct and if our learners are not learning Zulu in a "pathological" manner (which we propose they are not) then it is possible to conclude, in line with McClaughlin (1995) and Hermon (1992) that natural languages may not be nested, in which case the superset/subset relationship does not obtain. We therefore propose that what happens at ultimate attainment or at any other subsequent stage of IL development, is determined by the initial hypothesis formulated at the initial state and it is also this same hypothesis that determines the manner in which the L2 input data is analysed/misanalysed. Whether development proceeds rapidly or not does not depend on whether the languages are in a "nested" superset/subset relationship or on whether the property is marked or unmarked. It depends on the hypothesis initially formulated at the L2 initial state.

Chapter 9

Conclusions

9.0 Conclusion

In this study the predictions of the three initial state views were tested in the context of adult SLA. Specifically, the IL of native speakers of English learning Zulu was examined. The study set out to investigate the nature of initial state systems with respect to the availability of functional categories. In particular, the study examined the extent to which L1 functional categories transfer (if at all they do) into the L2 initial state. The acquisition of tensed C and topicalization formed the basis of this inquiry. Complementation and topicalization implicate the projection of a CP. The aim was to establish whether CP is projected in the learners' grammar in the very early stages of L2 development. The study also examined the nature of the ILG at subsequent stages in order to examine how functional structure evolves from the initial state up to ultimate attainment. The success of this enterprise depends on the extent to which the experimental evidence presented provides insight to the emergence and development of the two structures that formed the basis of this investigation.

The results of the experimental study on the acquisition of both syntactic structures strongly suggest that the starting point of L2 acquisition is the learner's L1 grammar. The findings provide strong evidence for the full transfer of L1 functional structure as proposed in the Full Transfer/Full Access (FT/FA) model (Schwartz & Sprouse 1994, 1996). The findings challenge the view that initial state systems have missing functional categories proposed in the Minimal Trees Hypothesis (MTH) (Vainikka & Young-Scholten 1994, 1996a, b, 1998). It also contradicts the view on the underspecification of strength values proposed in the Valueless Features Hypothesis (VFH) (Eubank 1993/94, 1996). The MTH's proposals on the nontransfer of marked complementation is also challenged. Top-type C, which is a marked option in UG transferred into the Zulu L2 initial state. The results suggest that L2 acquisition does not take place *in vacuo*. The totality of the L1 grammar has an influence at the L2 initial state. Thus the findings can be accounted for in terms of the wider empirical coverage of the FT/FA hypothesis: the L2

initial mental representation of interlanguage consists of both lexical and functional categories transferred from the native language.

The preference for the [-comp] sentences and the rejection of sentences with the lexical complementizer was unexpected. The rejection of the sentence with a lexical complementizer was analysed as a result of morphological avoidance. The findings suggest that although in initial L2 grammars lexical functional elements are initially avoided, this is not evidence of a grammar with missing functional categories or an indication of a representational deficit. The data on the acquisition of obligatory declarative complementizers in L2 Zulu indicates that COMP contains a null complementizer which, although it has no phonological matrix, has sufficient syntactic content to generate subordination in the learners' Zulu IL grammar. The initial state Zulu L2 grammar neither differs from mature state grammars with respect to the availability of syntactic positions (as the Minimal Tree Hypothesis predicts) nor does it necessarily develop from an initial grammar with optionality of expression to one with obligatoriness of expression.

Optionality in the initial English-Zulu IL data has been analysed as a result of morphological avoidance. In English while the lexical complementizer is allowed in verb-object-complement clauses and in sentential subjects, it is initially avoided in L2 acquisition. This led to indeterminate judgements because null comp which the learners were using is not permitted in these positions. However, in instances where the rule used in the IL coincides with what is allowed in the L1, optionality is not characteristic of initial state systems. Instead, the results suggests that optionality only sets in at subsequent stages as a result of the restructuring of the initial L1-like IL grammar. It is therefore reasonable to assume that developing IL grammars have complete functional structure which may be infelicitous with the target language system in that it is largely L1-like at the initial state.

Regarding missing functional elements, the findings suggest that initial L2 grammars do not exhibit missing functional categories in the sense of a representational deficit. The

“absent” (at surface morphology) functional elements are, in fact, present (at the level of syntactic computation) (Lardiere 1998). Their absence at surface morphology is a reflex of phonological underspecification. The English-Zulu ILG has a C-system which explains the presence of subordination and topicalization. The findings provide *a priori* evidence that while functional elements may be “missing” at the level of surface morphology since they are initially avoided because they lack phonetic content, these are “present” at the level of syntactic computation. On the basis of reasonable assumptions, the prevalence of “missing” functional elements in early developing grammars is attributed to morphological avoidance which is a direct consequence of phonological underspecification which blocks morphological spell-out of representationally present syntactic or functional elements. The initial Zulu IL grammar and perhaps including L2 grammars in general, do not differ from mature state grammars with respect to the availability of syntactic positions but rather with respect to the prevalence of phonologically underspecified functional heads which are not generally allowed in mature state grammars that may require phonetically filled functional heads.

The results in the acquisition of both tensed C and topicalization suggest that the availability of positive evidence does not guarantee convergence at ultimate attainment. The English-Zulu IL data suggests that the usability of the available positive evidence depends on the initial hypothesis formulated at the initial state. In the acquisition of complementation it had been predicted that complementation would be late-acquired and that it was a likely candidate for fossilisation. This prediction was made on the basis that English complementation is marked and it constitutes a superset of Zulu complementation. Because there would be no positive evidence to inform the learner that null comp is not allowed in Zulu, it was predicted that the IL grammar at ultimate attainment would be incomplete. Similarly, it had been predicted that the acquisition of topicalization would be rapid and the ILG at ultimate attainment would approximate that of native speakers because English speaking learners of Zulu will be exposed to frequently occurring base-generated topics which will trigger the activation of a non-movement analysis of topicalization. Yet the findings in this study suggest otherwise. At ultimate attainment the

knowledge representation for complementation converges with that of native speakers while the acquisition of topicalization yields a divergent competence. A closer look at the development of IL competence for the two structures from the initial state indicates that it is the hypothesis formulated at the initial state that determines later development especially at ultimate attainment.

While the acquisition of complementation is protracted, as evidenced by a prolonged period of indeterminacy, Zulu tensed C is finally acquired. But this is not the case in the acquisition of topicalization. Due to the apparent similarity of word order in the two languages, a wrong structural analysis is assigned to Zulu base-generated topics at the initial state which then affects later development of non-movement in the TL. The findings suggest that if a wrong structural analysis is assigned at the initial state, this diminishes the triggering effect for the acquisition of the relevant structure in question.

As seen in the acquisition of complementation, if on basis of the initial hypothesis formulated at the initial state, a correct structural analysis is assigned, then L2 learners gradually restructure their ILG. L1 forms that appear at the initial state or at an early stage of development are gradually replaced by L2 forms. Yet, as seen in the acquisition of topicalization, some L1-induced structures continue to manifest themselves even in the most advanced stages of L2 development. At the initial state, a wrong structural analysis is assigned to Zulu in-built topics. Topicalization is initially analysed as simple IPs which affects later development by diminishing the triggering effect for topicalization.

If this analysis is correct, then it is likely that in second language acquisition the superset/subset or the marked/unmarked dichotomy does not play as significant a role as thought before in determining whether positive evidence is "taken in" or not. The availability of positive evidence does not guarantee that it will be noticed or "taken in". It is more likely that it is the hypothesis formulated at the L2 initial state and its interaction with L2 input data which determines the nature of ILG competence at ultimate attainment.

If the input data is misanalysed as a result of misleading positive evidence then nonconvergence is the most likely type of competence at ultimate attainment.

Although this study set out to investigate whether native speakers of English have a CP-layer in their initial Zulu L2 grammar and if so, whether this is L1-like or target-like, it is possible to argue, on the basis of reasonable assumptions and on *a priori* considerations, the English-Zulu initial IL grammar has a full L1-like functional geometry. Development of functional structure is from absolute L1 influence to optionality at intermediate stages. The resolution of optionality depends on the hypothesis formulated at the initial state. If this analysis includes a misanalysis of the L2 input data, then the grammar at ultimate attainment is divergent. If the L2 input data is not misanalysed at the initial state, then the ILG recovers from the initial L1-induced misparse and the knowledge representation at ultimate attainment approximates native speaker competence.

While the results in this study may not be generalizable to other learners from other language backgrounds, they still have sufficient explicit empirical content to be potentially exploitable in the generalisation about the nature of initial state grammars, the extent to which functional categories are represented at the L2 initial state and the nature of the knowledge representation at ultimate attainment.

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LEXICALIZATIONS OF ITEMS

1. Ukuthi instantiation

(a) *+/-ukuthi as a complement of V*

1. * Abafana bacabanga 0 uThabo uthenge imoto.
2. Abafana bacabanga ukuthi uThabo uthenge imoto.
3. *Ngicabanga uThoko 0 uzokudla amabhontshisi.
4. Ngicabanga ukuthi uThoko uzokudla amabhontshisi.

(b) *+/- ukuthi as a complement of A*

5. Ugogo uqinisekile 0 abantwana bahlala eThekwini.
6. *Ugogo uqinisekile ukuthi abantwana bahlala eThekwini.
7. Ingane ziqinisekile 0 amaswidi aphele izolo.
8. *Ingane ziqinisekile ukuthi amaswidi aphele izolo.

(c) *+/- ukuthi in verb-object-complement clauses*

9. Kumele sikhombise 0 imantshi lokhu kuqondile.
10. * Kumele sikhombise imantshi ukuthi lokhu kuqondile.
11. Kumele batshele isela 0 lokhu kubi.
12. * Kumele batshele isela ukuthi lokhu kubi.

(d) *+/- ukuthi as a tensed sentential subject*

13. * 0 useye esikoleni kuyiphutha elikhulu.
14. Ukuthi useye esikoleni kuyiphutha elikhulu.
15. * 0 usethenge imoto kuyajabulisa kakhulu.
16. Ukuthi usethenge imoto kuyajabulisa kakhulu.

2. *BGT*

(i) *(+/- pre-expression)*

17. Umndeni wakubo, ngazi unina yedwa.
18. Kumndeni wakubo, ngazi unina yedwa.
19. Amadolobha amakhulu aseAfrika, ngazi iKapa yodwa.
20. Kumadolobha amakhulu aseAfrika, ngazi iKapa yodwa.

(ii) +/-Gap in Sentential Subject

21. Ukuthi **loya mfana** uphumelele ezifundweni zakhe kwethuse iningi.
22. Loya mfana_j, ukuthi **0_j** uphumelele ezifundweni zakhe kwethuse iningi.
23. Ukuthi ufuna ukuyisebenzisa manje **leya khomputha** liphutha elikhulu.
24. **Leya khomputha_j**, ukuthi ufuna ukuyisebenzisa manje **0_j** liphutha elikhulu.

(iii) +/-Gap in Wh-Island

25. Ngifuna ukwazi ukuthi uzolithengisa nini **leli kalishi**.
26. **Leli kalishi_j**, ngifuna ukwazi ukuthi uzolithengisa nini **0_j**.
27. Angazi ukuthi uBusani ubatshelile ukuthi uzoyithenga nini **leya moto**.
28. **Leya moto_j**, angazi ukuthi uBusani ubatshelile ukuthi uzoyithenga nini **0_j**.

(iv) [+/- Gap] in Embedded Clause.

29. UThabo ushilo ukuthi **uBusani** usebenza Egoli.
30. **UBusani_j**, uThabo ushilo ukuthi **e_j** usebenza eGoli.
31. UThabo unakana ukuthi uBongi usehlala eMlazi.
32. **UBongi_j**, uThabo unakana ukuthi **e_j** usehlala eMlazi.

FILLERS

(i) Future tense +/- **zoku** (will)

33. Isalukazi si**zokuya** edolobheni ngesonto elizayo.
34. *Isalukazi si**0ya** edolobheni ngesonto elizayo.
35. *Abafana bathe ba**0ya** esikoleni ngesonto elizayo.
36. Abafana bathe ba**zokuya** esikoleni ngesonto elizayo.

(ii) Past Tense, +/- **a**

37. UMphathi wa**shaya** abafundi ngesonto eliphelileyo.
38. * UMphathi ushaya abafundi ngesonto eliphelileyo.
39. Izalukazi za**ya** edolobheni ngesonto eliphelileyo.
40. *Izalukazi ziya edolobheni ngesonto eliphelileyo.

(iii) +/-V-raising over Adv.

41. UThoko uzigeza **njalo** izingubo zabantwana.
42. * UThoko **njalo** uzigeza izingubo zabantwana.
43. Uthisha ubafundisa **kahle** abantwana benkosi.
44. *Uthisha **kahle** ubafundisa abantwana benkosi.

(iv) *Subject-verb agreement.*

45. Abafana bathe bathanda ukusebenza endlini nonina wabo.
46. *Abafana bathe thanda ukusebenza endlini nonina wabo.
47. Isalukazi silokhu siphuza utshwala abantu bebhokile.
48. *Isalukazi silokhu phuza utshwala abantu bebhokile.

(v). *Aspect, +/- be*

49. Umkhulu ubelele lapho isela lingena endlini.
50. *Umkhulu ulele lapho isela lingena endlini.
51. Ibandla belisisdla lapho umfundisi engena esontweni.
52. *Ibandla lisidla lapho umfundisi engena esontweni.

VERSION B
LEXICALIZATIONS OF ITEMS

(a) +/-ukuthi as a complement of V

1. * UThoko ufuna 0 izinsizwa zifunde incwadi.
2. UThoko ufuna ukuthi izinsizwa zifunde incwadi.
3. *Umfundisi ufuna uThoko 0 aye eBhayi.
4. Umfundisi ufuna ukuthi uThoko aye eBhayi.

(b) +/- ukuthi as a complement of A

5. Abafazi bathemba 0 umkhulu useMpangeni.
6. *Abafazi bathemba ukuthi umkhulu useMpangeni.
7. Umfana wethemba 0 uBusanathi uzothenga indlu.
8. *Umfana wethemba ukuthi uBusanathi uzothenga indlu.

(c) +/- ukuthi in verb-object-complement clauses

9. Isiboshwa sigculise iphoyisa 0 leli yiqiniso.
10. * Isiboshwa sigculise iphoyisa ukuthi leli yiqiniso.
11. Ufakazi ubonise ijaji 0 akulona iqiniso.
12. * Ufakazi ubonise ijaji ukuthi akulona iqiniso.

(d) +/- ukuthi as a tensed sentential subject

13. . * 0 Useyiqedile lePhD yakhe ngamanga.
14. Ukuthi useyiqedile lePhD yakhe ngamanga.
15. . * 0 Useshade uGraca akulona iqiniso.
16. Ukuthi useshade UGraca akulona iqiniso.

2. BGT

(i) (+/- pre-expression)

17. Lencwadi, kukahleke ngoba kusasa ngizobe nginesikhathi.
18. **Njengalencwadi**, kukahleke ngoba kusasa ngizobe nginesikhathi.
19. IGoli, abantu bashayela imoto ezinstha.
20. **NjengaseGoli**, abantu bashayela imoto ezintsha.

(ii) +/-Gap in Sentential Subject

21. Ukuthi **lesisiduphunga somfundi** siya unyuvethi yinhlekisa.
22. **Lesisiduphunga somfundi**, ukuthi 0 siya unyuvethi yinhlekisa.

23. Ukuthi ungase uyiqede **lePhD** nonyaka akulungi dade.
 24. **LePhD_j**, ukuthi ungase uyiqede **θ_j** nonyaka akulungi dade.

(iii) +/-Gap in Wh-Island

25. Angisakhumbuli ukuthi ihlala kuphi **lengane**.
 26. **Lengane_j**, angisakhumbuli ukuthi ihlala kuphi **θ_j**.
 27. Angisazi ukuthi luncele nini **lolusana**.
 28. **Lolusana_j**, angisazi ukuthi luncele nini **θ_j**.

(iv) +/-Gap inside Embedded Clause

29. uThoko ukholwa ukuthi **abafundi** bazozibala lezincwadi.
 30. **Abafundi**, UThoko ukholwa ukuthi **θ_j** bazozibala lezincwadi.
 31. UThoko uthemba ukuthi uBonani uzofika kusasa.
 32. **UBonani_j**, uThoko uthemba ukuthi **θ_j** uzofika kusasa.

FILLERS

(i) Future Tense, +/- **zoku**

33. Abafana **bazokuya** ekoliji ngonyaka ozayo.
 34. * Abafana baya ekoliji ngonyaka ozayo.
 35. Ingane **zizokuthenga** amaswidi kusasa.
 36. * Ingane zithenga amaswidi kusasa.

(ii) Past Tense, +/- **a**

37. Umfundisi **waphindela** ekhaya ngonyaka ophelileyo.
 38. *Umfundisi uphindela ekhaya ngonyaka ophelileyo.
 39. UThoko **waqeda** ngonyaka ophelileyo.
 40. *UThoko uqeda ngonyaka ophelileyo.

(iii) +/- V-raising over **adv**

41. Ugogo uzithuka **njalo** lezingane zakwaThema.
 42. * Ugogo **njalo** uzithuka lezingane zakwaThema.
 43. UThoko ubugaya **kahle** utshwala basekhaya.
 44. * UThoko **kahle** ubugaya utshwala basekhaya.

(iv) +/- Subject-verb agreement

45. Inja isifuna ukuluma umfana kaDlamini.
 46. *Inja sifuna ukuluma umfana kaDlamini.

47. Umfundi **uphindela** esikoleni kusasa.

48. * Umfundi **phindela** esikoleni kusasa.

(v) *Aspect*, +/- **sa**

49. Umkhulu uthe isalukazi sis**aphuza** utshwala namanje.

50. *Umkhulu uthe isalukazi s**iphuza** utshwala namanje.

51. Ingane zis**aphuza** ubisi namamnje.

52. * Ingane ziphuza ubisi namamnje.

VOCABULARY BOOKLET

Names of people

uBonani	Bonani
uBongi	Bongi
uBusanathi	Busanathi
uBusani	Busani
uGraca	Graca
uThabo	Thabo
uThoko	Thoko

Names of Places

eAfrica	Africa
eBhayi	Pietermaritzburg
eGoli	Johannesburg
eMlazi	Mlazi
eMpangeni	Mpangeni
enyuvesithi	University
eThekwini	Durban
iKapa	Cape Town

All Other Words

abafana	boys
abafazi	women
abafundi	students
abantu	people
abantwana	children
akulona	incorrect, not something
amabhontshisi	beans
amadolobha	cities, towns
amaswidi	sweets
azi	know
bala	count
bonisa	show
cabanga	think
dade	sister, close friend
dla	eat
entsha	new
esikoleni	at school
fika	arrive
funa	want, desire
funda	read, study hard
gculisa	convince
hlala	sit, stay, remain
ijaji	judge
ikalishi	carriage
ikhomputha	computer
imantshi	magistrate
imoto	car, motor car
incwadi	book
indlu	house
ingane	baby
inhlekisa	a joke
iPhD	a PhD

iphoyisa	policeman
iphutha	a mistake
iqiniso	truth, honesty, fact
isela	thief
isho	say
isiboshwa	prisoner
isiduphunga	stupid person
isikhathi	time
iya	go
izifundo	lessons, studies
izinsizwa	young men
jabula	be happy
kholwa	believe, have faith
khombisa	show
khulu	big
khumbula	remember
kubi	bad
kubo	of his, his
kukahle	wonderful, Ok
kumele	must
kuphi	where
kusasa	tommorrow
leli	this one
lokhu	this
lunga	nice, good
manje	now
nakana	think very deeply
ncela	breast-feed
ngoba	because
nini	when
nonyaka	this year
phela	finish
phumelela	be succesful
qeda	finish, complete
qinisela	be patient, persevere
qonda	straight, ok
sebenzisa	use
shada	marry
shayela	phone someone, drive
themba	hope
thenga	buy
thengisa	sell
tshela	tell
ufakazi	witness
ugogo	grand-mother
ukuthi	that
umfana	boy
umfundi	student
umfundisi	teacher; church minister
umkhulu	grand father
umndeni	family
unina	mother
usana	a very small baby
yedwa	alone
yethusa	surprise, amaze

22 Kate Street
Belgravia
Johannesburg 2094
Tel: (011) 614 8108
Cell: (082) 573 4435
6 September 1996

Dear Parent/Legal Guardian,

I am writing to ask for your consent so that your child attending school at ----- can take part in an experiment on language learning. I am carrying out my PhD research in the Department of Applied Linguistics, Edinburgh University, into the acquisition of another language other than our first language. I am mainly interested in how English speaking South Africans learn certain aspects of the Zulu Language. The experiment is an investigation of the way in which a language that is not our mother tongue is represented in our minds. It is not a test of how clever or intelligent the children are. There will be no marks awarded for participating in the experiment. Some of the teachers will also take part in the experiment.

Those who participate in the experiment will be asked to make decisions on whether Zulu sentences that will be shown to them are possible. The experiment is timed and it will not take more than an hour. The participants will be asked to (i) complete a questionnaire asking them about their language learning experiences, (ii) fill in missing words in a passage, (iii) rate given sentences on a scale of 1-5 and (iv) assign numbers to sentences depending on how good or bad there are. I have enclosed a copy of the main instruction booklet which will give you a picture of what the participants will be asked to do during the experiment. I'd like to point out that the responses to all these tasks will be kept **ANONYMOUS**. I will **NOT** be using names or addresses in my work.

The research project is part of my PhD studies partly funded by the Human Sciences Research Council. Because of the limitations in funding from the Human sciences Research Council, there will be no payment to those who participate in the experiment. I will only be able to provide pens and home-made chocolate cookies after the experiment. I am therefore asking you to help me by giving consent to your child to take part. If you are willing to help in this research, you can sign the consent form attached at the back of this letter. If you have any questions you can phone me at home or you can leave a message for me and I will call you back as soon as I can. You can also call me on my mobile and I will gladly answer all the questions you may have about this research. If for any reason you do not wish your child to take part in this research, please feel free to say so. Your child will be excluded from participating in the experiment. I must also mention that the success of this important research depends on your child's participation. Your child will be amongst the first English speaking South African to participate in an experiment of this nature.

Thank you for taking your time reading this letter and for your help in this important research.

Sincerely,

Sibusisiwe Dube (Ms).

INFORMED CONSENT FORM

I-----voluntarily agree to let my child participate in a research project conducted by Ms S. Dube, a PhD student at the University of Edinburgh.

1. The research is being conducted in order to explore the process of second language acquisition of some aspects of the Zulu language by first language speakers of English. The specific task my child will perform requires that s/he:

- (i) Completes a questionnaire which asks for general information about language learning and demographic information.
- (ii) Fills in missing Zulu words in a passage of about 500 words.
- (iii) Rates given sentences (52 in all) on a scale of 1-5.
- (iv) Assigns numbers to given Zulu sentences (52 in all) depending on their degree of acceptability.

2. I also understand that the tasks that my child will perform may not be in the order given above for theoretical reasons concerning the research.

3. I also acknowledge that Ms S. Dube has explained in writing and has provided the instruction booklet which explains in detail the tasks my child is required to perform, has informed me that I may withdraw my child from participating without prejudice or penalty.

4. I also acknowledge that Ms S. Dube has informed me that there will be no monetary reward given to my child for participating in the research project.

5. I also acknowledge that Ms S. Dube has promised to provide pens that would be used in the research task and that upon completion of the research task my child is free to keep the pen. I also acknowledge that Ms Dube has promised to provide some snacks at the end of the task.

6. I also acknowledge that Ms. Dube has promised to brief the participants and to explain in very general terms certain aspects of the research which could not be discussed before the research.

Signature of parent/legal guardian.

Date _____

ID	L1	HQ	PO
0001	E	PhD	Senior Lecturer
0002	E	Matric	MBCHB student
0003	E	Matric	B.Sc. Enginnering student
0004	E	Matric	B.Sc Engineering Student
0006	E	M.Sc	Admin Officer
0007	E	Matric	B.Sc Optometry student
0008	E	Matric	B.Sc Engineering student
0009	E	Matric	B.Sc Pharmacology
0010	E	Matric	B.Sc Pharmacy student
0011	E	"A" levels	MBCHB student
0014	E	Matric	B.Sc Engineering
0015	E	----	Std 5 pupil
0016	E	----	Std 5 pupil
0017	E	----	Std 5 pupil
0018	E	MA	Lecturer in Zulu
0019	E	----	Std 5 pupil
0020	E	----	Std 5 pupil
0021	E	----	Std 5 pupil
0022	E	----	Std 5 pupil
0023	E	----	Std 5 pupil
0024	E	Std 5	Std 9 pupil
0025	E	----	Std 5 pupil
0026	E	----	Std 5 pupil
0027	E	----	Std 5 pupil
0028	E	----	Std 5 pupil
0029	E	Std 5	Std 9 pupil
0030	E	D. PR	Zulu News Reader
0031	E	Std 5	Std 9 pupil
0032	E	----	Std 5 pupil
0033	E	BA	B.Sc. Phamarcology student
0034	E	----	Std 5 pupil
0036	E	----	Std 5 pupil
0037	E	Matric	B.Com student

0038	E	-----	Std 5 pupil
0050	E	Matric	MBCHB
0051	E	Matric	BA student
0052	E	BA/HDE	Teacher/PT MA student
0053	E	BA/HDE	Senior Lecturer
0054	E	Matric	BA student
0055	E	BA	Trainee teacher in Zulu
0056	E	BA Hons	Lecturer in Zulu at TC
0057	E	Matric	BA student
0058	E	Std 5	Std 9 pupil
0059	E	Matric	BA student
0060	E	Matric	B.Soc.Sc
0061	E	Matric	BA student
0062	E	Matric	B.Com student
0063	E	Matric	BA student
0064	E	Matric	BA student
0065	E	Matric	BA student
0066	E	Matric	B.Sc Engineering
0067	E	BA/HDE	Teacher
0068	E	HDE	B.Soc.Sc student
0069	E	Matric	B.Sc Engineering Student
0070	E	-----	Std 5 pupil
0071	E	Matric	B.Sc Pharmacy
0072	E	Std 5	Std 9 pupil
0073	E	Matric	B.Sc Engineering
0074	E	Matric	BA student
0075	E	BA	Trainee Teacher in Zulu
0076	E	PhD	Minister Of The Gospel
0077	E	Matric	BA student
0078	E	MA	Teacher
0079	E	Matric	B.Soc.Sc student
0080	E	Matric	BA student
0081	E	Matric	BA student
0082	E	Matric	BA student
0083	E	-----	Std 5 pupil
0084	E	PhD	Professor and HOD Zulu Dept
0085	E	Matric	LLB student

0087	E	Matric	BA student
0088	E	MA	Lecturer in Zulu at TC
0089	E	Matric	BA student
0090	E	Std 5	Std 9 pupil
0091	E	MA	PhD student
0092	E	PhD	Senior Lecturer
0093	E	Matric	B.Sc S&H Therapy student
0094	E	Matric	BA student
0096	E	BA	TA/PT BA Hons student
0100	E	Matric	B.Com student
0102	E	BA Hons	Translator
0103	E	Matric	BA student
0104	E	Matric	BA student
0105	E	Matric	BA student
0106	E	Matric	BA student
0107	E	Matric	BA student
0108	E	Std 5	Std 9 pupil
0109	E	Matric	BA student
0110	E	Matric	BA student
0111	E	BA/HDE	Teacher
0112	E	Matric	LLB student
0113	E	Matric	BA student
0115	E	Matric	BA student
0116	E	BA	TA/ PT MA student
0117	E	Matric	LLB student
0118	E	Matric	B.Soc.Sc student
0119	E	BA	Senior Editor, Zulu RN
0122	E	Std 5	Std 9 pupil
0123	E	MA	Lecturer in Zulu at TC
0124	E	Std 5	Std 9 pupil
0125	E	Matric	B.Soc.Sc student
0200	E	Matric	B.Com student
0201	E	Matric	B.Com student
0202	E	Matric	BA student
0203	E	Matric	BA student
0204	E	BA	Minister of the Gospel
0205	E	Matric	B.Com student

0206	E	Matric	B.Sc. Engineering student
0207	E	Matric	B.Com student
0208	E	PhD	Senior Lecturer in Zulu
0209	E	PhD	PhD student
0210	E	BA/HDE	Teacher
0211	E	PhD	Senior Lecturer
0212	E	BA/HDE	Teacher
0213	E	B.Ped	Teacher
0214	E	Matric	BA student
0215	E	Matric	B. Soc. Sc student
0216	E	“A” levels	B. Soc.Sc student
0217	E	Matric	BA student
0218	E	Matric	B.Sc Engineering
0219	E	Matric	BA student
0220	E	PhD	Director Of Financial AID
0221	E	Matric	BA student
0222	E	BA/HDE	Teacher
0223	E	Matric	B.Sc. Engineering Student
0224	E	Matric	B. Proc. student
0226	E	Matric	BA student
0227	E	Matric	BA student
0228	E	Matric	B.Sc Pharmacy student
0229	E	Matric	BA student
0300	E	BA	TA/PT Mphil student
0301	E	PhD	Senior Lecturer in Zulu
0302	E	B.Ped.	Teacher
0304	E	Std 5	Std 9 pupil
0308	E	-----	Std 5 pupil
0309	E	-----	Std 5 pupil
0310	E	-----	Std 5 pupil
0311	E	-----	Std 5 pupil
0312	E	-----	Std 5 pupil
0314	E	-----	Std 5 pupil
0315	E	-----	Std 5 pupil
0316	E	-----	Std 5 pupil
0317	E	-----	Std 5 pupil
0318	E	-----	Std 5 pupil

0319	E	-----	Std 5 pupil
0320	E	-----	Std 5 pupil
0321	E	-----	Std 5 pupil
0340	E	Std 5	Std 9 pupil
0341	E	Std 5	Std 9 pupil
0402	E	Std 5	Std 9 pupil
0458	E	MA	PhD student
9002	Z	Matric	B.Sc Engineering student
9003	Z	Matric	BA student
9004	Z	Matric	B.Sc S&H Therapy student
9005	Z	Matric	B Com student
9006	Z	Matric	B.Sc. Vet.Med. student
9009	Z	Matric	B.Sc. Vet. Med. student
9012	Z	Matric	BA student
9014	Z	Matric	BA student
9015	Z	Matric	BA student
9018	Z	Matric	B.Sc Engineering student
9019	Z	HDE	B.Ed. student
9020	Z	Matric	BA student
9040	Z	Matric	LLB student
9041	Z	Matric	B.Proc. student
9042	Z	Matric	B.Sc Engineering student
9043	Z	Matric	BA student
9045	Z	Matric	BA student
9046	Z	Matric	BA student
9047	Z	Matric	B.Com student
9048	Z	Matric	BA student
9049	Z	D.CP	B.Sc Computer Tech. student
9050	Z	Matric	BA student
9051	Z	Matric	B.Sc Engineering student
9052	Z	-----	Std 5 pupil
9053	Z	Matric	BA student
9054	Z	Secretarial Dip	BA student
9055	Z	Matric	BA student
9056	Z	Matric	BA student
9057	Z	Matric	BA student
9058	Z	Matric	BA student

9090	Z	PhD	Professor
9091	Z	BA/HDE	Teacher
9405	Z	Matric	Zulu Novelist/PT BA student
9425	Z	Matric	B.Com student
9612	Z	-----	Std 5 pupil
9613	Z	-----	Std 5 pupil
9635	Z	Matric	BA student
9666	Z	Matric	BA student

KEY:

ID Identity Number

L1-- First language.

HQ-- Highest qualification

PO-- Present Occupation.

E English

Z Zulu

IDENTITY NUMBER-----

In the following passage a number of words have been omitted. Please read the passage carefully and insert **ONLY ONE** word of your own which makes the most sense with respect to both **MEANING AND GRAMMAR**. Read (at least) the first page of the passage before starting to write. You can take as much time as you like in completing the passage.

From :Mntanami! Mntanami (By Sibusiso Nyembezi)

Ngalelo langa uJabulani waqala ukubona ukuthi ukubanjwa lokhu yinto enje. Ubanjwa nje unabanye abangane bakhe ababili, bonke baxishe balingane ngobudala noma kunguye omdala kunabo bonke. Abaphikanga emaphoyiseni ukuthi imali bayithathile ngoba babanjwa nayo. Kuphela nje bafakwa esitokisini ukuba balindele (1)_____ secala ngakusasa. Pho sekuyafutha lapha emzimbeni (2)_____ bathi bengena nje emaphoyiseni, ayebamkela ngempama (3)_____. Okomfanyana bakuwule kuye kuyothi khilikithi laphaya. (4)_____ umdlalo ngoba abanye babemane bakusikaze nje (5)_____ kuvike kuphele, azihlekele unongqayi ahambe ayozixoxela (6)_____.

Ngesikhathi engena esitokisini, ikhala imishudo emikhulu (7)_____, kukhala nezingidi, yaqala ukuba buhlungu inhliziyiyo (8)_____. Wacabanga ngoyise, wacabanga ngonina. Abuye aziduduze (9)_____ akuqali ngaye, baningi abantu bengena emajele (10)_____ ndaba zalutho. Futhi nakulo lelicala akayedwa; (11)_____ bathathu. Into eyake yamhlupha ukuthi bazocabangani (12)_____ abazali bakhe uma bezwa ukuthi usejele. (13)_____ esenza ukuthanda kwakungeze kungamhlupha kakhulu ukucabanga (14)_____ bakhe. Kuphela nje wayezenzela ngokungabi nandaba. (15)_____ kwakungokunye namhlanje, wayesejele. Ijele wayengalicabangi nanini. (16)_____ bethi ukuhlakanipha kwabo kuyobachushisa njalo nje. (17)_____ lake labonwaphi elizikhotha emhlane?

Bafakwa behlukaniswa (18)_____ babo, ingabe kwakwenzelwa ukuthi bangabi nathuba (19)_____ amazwi yini. Yilowo bamfaka yedwa, aququde (20)_____ ubusuku bonke eyedwa.

Ngakusasa ekuseni bavulelwa, (21)_____ abageze ibhodwe, babase umlilo bazoziphekela uphuthu. (22)_____ balupheka, lwabondwa kabili kathathu lwayekwa. Lwaluyaphakwa (23)_____ bayadla, behlisa ngamanzi. Kuthe lapho kusondela (24)_____ sika-9, kwakufika abanye abatokile abavela ejele (25)_____, nabo sebeze khona emacaleni. Laba kwase (26)_____ abaqinile impela, abanye sebensasa. Bafike bahlala (27)_____ kwesihlahla behamba nephoyisa elibabhekile, lona liphethe (28)_____. Lamadoda abathi klabe labafana ngamehlo amangala (29)_____ ukuthi njengoba kuyabonakala lokhu ukuthi kusekuncane, (30)_____ lapha.

Kwaya, kwaya, baqala ukufika nabazolalela (31)_____. Waqhamuka noDlamini ehamba noMthethwa. UJabulani wathi (32)_____ ebona uyise wafikelwa ngamahloni, wabheka le. (33)_____ ethandaza ngenhliziyo ukuthi kungabikho owakubo ozayo (34)_____ lelicala lakhe. Uyise wababona lapho bekhona (35)_____ khona. Uthe lapho efika wema kwaba (36)_____ akuvumi nokuba akhulume. Wayeqonde ukuba ake (37)_____ kodwa kwala. Kwala nokuba abingelele. Kwaze (38)_____ yena uMthethwa wathi, "Sakubona Jabulani." Wavuma (39)_____ ebheke phansi, elokhu esiphusiphula utshani abuhlafune, (40)_____ abujike laphaya, abuye asiphule obunye. Inhliziyo (41)_____ ngamandla. Wesaba ukuthi uMthethwa uzoqhubeka nenkulumo (42)_____ kuzwe nalaba abangazi ukuthi wenzeni. Kanti (43)_____, akazimisele kukhuluma lutho owakwaNyambose. Kwathi gidi (44)_____ kuJabulani lapho uyise noMthethwa beyomela kudana (45)_____.

Sashaya isikhathi, angena amacala; lithi uma (46)_____ liphuma selizobiza omunye, inhliziyo kaJabulani ishaye (47)_____ sengathi sekungaye. Laqhubeka ilanga, aqhubeka namacala (48)_____ kwashaya idina lingakangeni icala loJabulani. Kuthe (49)_____ kubuywa edineni kwaqalwa ngabo.

“Jabulani Dlamini, (50)_____ Nkosi, Mandla Mthabela, wozani!” Bathi lacu (51)_____ kanyekanye, bathintitha amabhulukwe abo, kwayinqaba ukuthi (52)_____ bani kuqala, yilowo efuna ukuba kuqale (53)_____. Laze labathethisa iphoyisa libuza ukuthi abangeni (54)_____. Nempela bangena baqonda ebhokisini.

Bathi lapho (55)_____ bonke umshushisi wake wababuka, wayesedlulisa amaphepha (56)_____ wawanika imantshi. Imantshi yathi ukuwafundafunda yathi (57) “_____.” Yaphakamisa amehlo yababheka. Wathatha umshushisi wathi, (58) “_____ Dlamini, John Nkosi, Mandla Mthabela, nina (59)_____ icala lokweba ngobuhilikiki ngokusayina amagama abanye (60)_____. Niyalivuma noma niyaliphika icala na?”

Wezwakala (61)_____ izwi ligedezela ethi, “Cha mina, cha (62)_____ Nkosi angizange ngisayine. Mina ngiphiwe nguJabulani (63)_____.” NoJohn naye wathi yena akazange aye (64)_____. Yena uthe ezimele nje wabizwa nguJabulani (65)_____ kukhona azobakhombisa khona. Icala sebelithatha lonke (66)_____ phezu kukaJabulani. Sekungena umLungu waseposini ezofakaza (67)_____ ngempela imali uyinike lomfana abathi uJabulani. (68)_____ ahluphe ngokuphika. Wavuma ukuthi nempela imali leyo uyithathile.

The answers are:

	<u>Exact Deletion</u>	<u>Close approximate</u>
1	isigwebo	isikhathi
2	ngoba	phela
3	nangesicathulo	evuthayo, eshisayo, ebuhlungu
4	sekuphendula	sebekwenza
5	ngenhlanekela	ngempama
6	nabanye	nje

7	yensimbi	yesicathulo, kakhulu
8	KaJabulane	yakhe
9	ngokuthi	athi, ngoba
10	kungabi	
11	babanjwe	bonke, sebebonke
12	ngaye	bona
13	ngesikhathi	lapho
14	ngabazali	
15	kodwa	phela
16	babezethembile	bahlezi
17	ingabe	lona
18	nabangane	nabanye
19	lokuhlanganisa	bamba, lokubopha
20	umunyu	amazinyo
21	kwathiwa	
22	nempela	nakanje, bavuka, basukuma
23	njalo	lona
24	isikhathi	
25	elikhulu	elinye
26	kungabantu	kungabafana
27	ngaphansi	eduze, nganeno
28	umkhonto	isibhamu, umense
29	nje	nawo
30	kuzofunani	kwenzani
31	baqala	
32	lapho	
33	wayekade	kakade, ubekade
34	ukuzolalela	kulo
35	waqonda	walubhekisa
36	sengathi	useyaqhaqhazela
37	akhulume	amthethise
38	kwathatha	kwaqala, kwakhuluma
39	ebheke	

40	abujike	kude
41	ngamandla	kakhulu, njalo-nje
42	kuzwe	kwazi
43	kukhuluma	kwenza
44	lapho	uma
45	isikhathi	
46	selizobiza	selizothatha, sekuhamba
47	sekungaye	
48	idina	
49	edineni	
50	Mandla	
51	bathintitha	badonsa
52	kuqala	phakathi
53	labathethisa	
54	bangena	
55	umshushisi	ujaji
56	imantshi	
57	amehlo	ikhanda, izandla
58	uJohn	
59	lokweba	
60	noma	ingabe
61	mina	
62	ngiphiwe	nginikezwe
63	akazange	
64	sebelithatha	
65	umlungu	umatshingelane
66	lomfana	
67	ahluphe	
68	nempela	

ANSWER BOOKLET.
(ENGLISH)

IDENTITY NUMBER.....

ANSWER SHEET

BAD ZULU

GOOD ZULU

1.	1	2	3	4	5
<hr/>					

2.	1	2	3	4	5
<hr/>					

51.	1	2	3	4	5
<hr/>					

52.	1	2	3	4	5
<hr/>					

ANSWER SHEET FOR THE ME TASK

IDENTITY NUMBER:.....

1. -----

2. -----

3. -----

4. -----

50. -----

51. -----

52. -----

*BOOKLET FOR ALL
INSTRUCTIONS.
(ENGLISH)*

INTRODUCTION:

I am asking you to take part in a small scale research project on learning the Zulu language. I have included the instructions of what I would like you to do in order to carry out this research. Please read it carefully and do the practice exercises at the end of each section.

IDENTITY NUMBERS

I would like to keep your responses in this research anonymous, but at the same time I need to give a demographic description of you, the respondents. In order to make this possible (and at the same time maintaining anonymity), you will be given a number which will be your identity number in all the tasks you will participate in. Make sure you write this identity number in the space provided in all the answer sheets.

1. THE MAGNITUDE ESTIMATION PROCEDURE

1.1. JUDGING LINE LENGTH.

You will be presented with a series of lines each of varying length. Your task is to tell how long they seem to be by assigning numbers to them. Let the first line be your reference. Give it any number that seems appropriate to you, bearing in mind that some of the lines will be longer than the reference line and some will be shorter.

Assign a number to each subsequent line so that it represents how long it is in proportion to the reference line. The longer it is when compared to the reference, the larger the number you will use; the shorter it is compared to the reference, the smaller the number you will use. So if you feel that a new line is twice as long as the first, give it a number twice the first number you gave to the reference line; if it's a third as long, assign a number which is a third as big as that of the reference line.

1.1.2 EXAMPLES

So if the reference line is (1) below:

1. _____

and you give it the number 3, and you have to judge line (2) below:

2. _____

If you think line 2 is 3 times as long as line 1 then you will give it a 9. Then, the following line (3):

3. ____

If you think line 3 is $\frac{1}{3}$ of line 1, then you may give it number 1.

1.1.3 TAKE NOTE

There is no limit to the range of numbers you may use. You may use whole numbers and fractions or decimals but not zero. Just try to make each number match the length of the line as you see it.

DO YOU HAVE ANY QUESTIONS?

1.1.4 SHORT EXERCISE ON JUDGING LINE LENGTH.

Now we are going to have a short practice session of judging line length. There are ten lines below and you are asked to judge their length. Remember that you must always assign a number to each line so that it represents how long it is in proportion to the reference line. An answer sheet is provided below.

EXERCISE ON LINE LENGTH.

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____
- 10. _____

ANSWER SHEET FOR THE LINE LENGTH EXERCISE

IDENTITY NUMBER:.....

- 1. -----
- 2. -----
- 3. -----

4. -----
5. -----
6. -----
7. -----
8. -----
9. -----
10. -----

1.2. JUDGING THE ACCEPTABILITY OF ZULU SENTENCES

The purpose of this little exercise is to get you to judge the acceptability of some Zulu sentences. You will be shown a series of sentences in Zulu. These sentences are all different. Some will seem perfectly OK to you, but others will not. What I am after is not what you think of the *meaning of the sentence*, but what you think of the way they are constructed. There are no right and wrong answers in this exercise. This is not a grammar test where you have right and wrong answers. It is an exercise on opinions about language and different people have different opinions about the same sentence or the same piece of language. Any answer will be interesting in this research.

Your task is to judge how good or how bad each sentence is exactly the way you judged how long or short each line was by assigning a number to it. As with the lines, for the first example, you can use any number that seems appropriate to you. For each subsequent sentence, assign a number to show how good or bad that sentence is in proportion to the reference sentence. Like in the exercise on line length, the higher the number you assign a sentence, the more acceptable that sentence is. Less acceptable sentences will be assigned lower numbers just like the shorter lines in the line length exercise.

1.2.1. EXAMPLES.

If the first "sentence" was (1) below:

(1) Hlezi indoda yingolovane.

and you gave it a 1, and if the sentence, (2) below was:

(2) Inja ubisi iphuze

seemed 20 times better, you'd have to give the number 20. If it seems half as good as the reference sentence, give it the number $\frac{1}{2}$.

1.2.2. **A REMINDER**

You can use any range of positive numbers you like including, if necessary, fractions or decimals. You should not restrict your responses to, say, an academic marking scale. However, you may not use minus numbers or zero, of course, because these are not proper multiples or fractions of positive numbers. If you forget the reference sentence don't worry, if each of your judgements is in proportion to the first, you can judge the new sentence relative to any of them that you do remember.

There are no "correct" answers, so whatever seems right to you is a valid and interesting response. Nor is there a "correct" range of answers or a "correct" place to start. Any convenient positive number will do for the reference which is the first sentence. I am interested in your first impressions, so don't spend too long thinking about your judgement.

Please remember the following:

1. Use any number you like for the first sentence written in bold print.
2. Judge each sentence in proportion to the reference sentence.
3. Use any positive numbers you think appropriate.
4. You only have limited time within which to provide a number for each sentence.

1.2.4. **SHORT EXERCISE ON ACCEPTABILITY OF ZULU SENTENCES**

Now we are going to have a short practice session on judging the acceptability of Zulu sentences. You are given a series of sentences below and try to provide a number for each sentence within 10 seconds. The first i.e. the reference sentence is in bold print. The answer sheet is provided.

1. Usana bancele kusasa.

2. UDLamini ubukeka ekhathazekile kakhulu.
3. UDLamini uzothuka ingane ngoba njalo.
4. UThemba ingane ifuna ngiyagijima mina njalo.
5. Umfana zithenga inyama izolo ngoba yisitolo.
6. Ibhubesi yisilwane esesabekayo kakhulu.
7. UThoko uhambe unogwaja ngabafana edolobheni.
8. Ibhubesi ngibone isilwane uThemba uhambe.
9. Umuntu ufuna inyama yenkomo ngoba imnandi.
10. Ingane zibone unogwaja phandle.

ANSWER SHEET FOR ACCEPTABILITY OF ZULU SENTENCES.

IDENTITY NUMBER:.....

1. -----

2. -----

3. -----

4. -----

5. -----

6. -----

7. -----

8. -----

9. -----

10. -----

THE RATING TASK

2.1. INSTRUCTIONS

In this exercise there are a series of sentences some of which are acceptable and some of which are not. If you think the sentence is perfectly good Zulu circle number 5. If you think the sentence is really bad Zulu, circle on number 1. If you think the sentence is neither good nor bad Zulu circle number 2, 3, or 4 depending on the degree of acceptability of the sentence. Since this is not a grammar test, and I am interested in your first impressions, please do not change the circle you have made for each sentence.

2.1.1 EXAMPLES:

Lets suppose you have been given a sentence like (1) below;

1. Ubaba uZashuke wakhe ngaseThekwini.

Since the above sentence is perfectly good Zulu, a suitable answer would be to circle 5 as shown below:

1 2 3 4 (5)

Now if you are given the next sentence as (2) below;

2. USipho amaBhunu amaNgisi angizukuhamba ngoThemba.

The above sentence is really bad Zulu and, therefore, a suitable answer in this case would be circling number 1 as shown below;

(1) 2 3 4 5.

If you are further given a sentence like (3) below,

3. USipho emakethe uzokuya.

Since the above sentence is neither good nor bad Zulu, in fact, it is almost OK but not exactly very good Zulu so we can show this by circling 4 as shown below:

1 2 3 (4) 5

If you were given a sentence like (4) below:

4. USipho ingane zokuya emakethe.

This sentence given in (4) above is neither good nor bad Zulu. It is almost very bad, but not really that bad so we can show this by circling 2 as shown below:

1 (2) 3 4 5.

2.1.2 TAKE NOTE:

1. Circle number 5 if the sentence is perfectly good Zulu.
2. Circle number 1 if the sentence is very bad Zulu.

3. Circle number 2, 3, or 4 if the sentence is neither good nor bad Zulu depending on the degree of acceptability of the sentence.
4. Do not change your mind once you have circled a number. This is not a grammar test. There are no right or wrong answers.
5. You have 10 seconds to provide an answer for each sentence.

2.1.3. **SHORT EXERCISE.**

Ten sentences are provided below. You have 10 seconds to provide an answer for each sentence. Circle the number that you think reflects the degree of acceptability of the sentence that you see in the OHP. An answer sheet has been provided on the following page.

1. Ibhubesi ngibone isilwane uThemba uhambe.
2. UDlamini uzothuka ingane ngonyaka ngoba.
3. UThemba ingane ufuna ngoba bona ngumZulu kusasa?
4. UThoko uhambe unogwaja ngabafana edolobheni.
5. UDlamini ubukeka ekhathazekile kakhulu.
6. Umfana zithenga inyama izolo ngoba yisitolo.
7. Usana bancele kusasa izolo ngoba.
8. Ingane zibone unogwaja phandle.
9. UDlamini uzothuka ingane ngonyaka ophelileyo.
10. Umuntu ufuna inyama yenkomo ngoba imnandi.

ANSWER SHEET FOR THE RATING TASK

IDENTITY NUMBER:.....

	<u>BAD ZULU</u>			<u>GOOD ZULU</u>		
1.	1	2	3	4	5	
.....						
2.	1	2	3	4	5	

.....

3. 1 2 3 4 5

.....

4. 1 2 3 4 5

.....

5. 1 2 3 4 5

.....

6. 1 2 3 4 5

.....

7. 1 2 3 4 5

.....

8. 1 2 3 4 5

.....

9. 1 2 3 4 5

.....

10. 1 2 3 4 5

.....

3. Cloze Test

In this part of the exercise you will be given a passage with certain words omitted. In the passage a whole word is omitted. The size of the space provided **DOES NOT** give any indication of the size of the missing word. You are asked to provide the missing word.

INSTRUCTIONS:

In the following passage a number of words have been omitted. Please read the passage carefully and insert **ONLY ONE** word of your own which makes the most sense with respect to both **MEANING** and **GRAMMAR**. Read (at least) the first page of the passage before starting to write. The size of the space provided does not give an indication to the size of the missing word. You are given only 5 minutes to complete this task.

Lashona ilanga, zaqhakaza izinkanyezi. Kwabizwa umthandazo. Nasemthandazweni akezanga, wahlala nje esibayeni. Ngemuva komthandazo lezwakala izwi likayise phandle:

“Jabulani!”

“Baba!”

“Ngena endlini; kuhlwile manje!”

Wasukuma wangena endlini, unina wamupha ukudla (1)_____.

Pho-ke lokhu indaba ihambisa okomlilo, lathi (2)_____ ilanga wasewazi wonke umuzi ukuthi umfana (3)_____ ubengomunye wabafana ababanjiwe. Phela kakade inala (4)_____ kuhamba indlala. Indaba kaJabulani bayifafaza onozindaba, (5)_____ bezabanye ezabo zibakhohlile, sebeyinonga beyenza konke. (6)_____ nibone uma kuze kuhleke noMaNkKala abantu (7)_____ abangane bakwaDlamini. Wawungeke umswele kwaDlamini. (8)_____ kancane usekhona, kancane kancane usekhona. Wawungaze (9)_____ ugomele ubeke nenkomo yakho uthi impela (10)_____ bonke bengamfisela okubi owakwaDlamini uMaNkKala nguyena (11)_____ ongasala emfisela okuhle, kanti ukhe phansi.

(12)_____ ngalo lelolanga okwathethwa ngalo icala, uyasuka (13)_____ uqonda kwaMaMdunge. Pho lokhu uma behamba (14)_____ kugcwele lapha ezifubeni, bahambisa okwabantu abasha (15)_____ esabasinda ngisho namanoni abo. Amadolo abo (16)_____ abawabika imihla le angabe esaziwa, ngoba (17)_____ siyagubhazela, sifuna ukuphungulwa. Lwabaluhle-ke nonyawo lwakhe (18)_____ wamfica umnumzane engekho.

“Hawu, kazi yini MaNkKala ekuletha liyoshona, lokhu wena uhle ushobashobe emini uthi kuhlwile.”

THANK YOU FOR TAKING YOUR TIME TO DO THIS EXERCISE.

JNCWADJANA EP5A75ELENE

NOXZIMELE KWENZJWE.

(JSJZULZI)

ISINGENISO

Impendulo enizozinikeza kulomsebenzi enizowenza nami ziyokuba yimfihlo. Kodwa-ke kudingeka ukuba ngazi ezinye izinto eziphathelele nani. Ukuze ngazi ukwenza lokhu, nizosebenzisa amagama emfihlo (code names) engizozinikeza wona. Kuqakathekile-ke ukuba nilobe leligama lemfihlo kuwo wonke amakhasi ezimpendulo engizozinikeza wona.

1. OKUPHATHELENE NE “MAGNITUDE ESTIMATION”

1.1. UKWENZA ISINQUMO NGOBUDE BOMZILA

Uzokukhonjiswa imizila eminingana enobude obehlukeneyo. Uyacelwa ukuba usho ukuthi umzila munye ngamunye ungaba mude okungakanani ngokuyinikeza inombolo oyikhethile wena. Sebenzisa umzila wokuqala njengomzila wokuqathanisa ubude bemizila yonke elandelayo. Wunikeze inombolo, noma iyiphi inombolo, kodwa-ke nakekela ukuthi eminye imizila izokuba mde noma ibemfushane kunalo owokuqala.

Nikeza inombolo kumizila yonke elandelayo ukuze inombolo lena ikhombe ubude bomzila munye ngamunye uma uqathaniswa nomzila wokuqala. Uma umzila umude okwedlula lona owokuqala, inombolo ozoyinikeza lomzila izokuba nkulu kunale oyinikeze umzila wokuqala. Nakanjalo, umzila omfushane kunalo owokuqala, uzowunikeza inombolo encane kunale oyinikeze umzila owokuqala. Uma kubonakala ukuthi umzila omusha obhekane nawo mude okukabili okwedlula lona owokuqala, wunikeze inombolo enkulu okukabili okwedlula lena oyinikeze umzila wokuqala. Ngokunjalo, uma umzila olandelayo umude okungokunye kokungokuthathu komzila wokuqala, wunikeze inombolo ekhomba lokho.

1.1.2 IZIBONELO:

Asithi unikezwe umzila olandelayo njengomzila wokuqala,

1. _____

Asithi lomzila uwunikeze inombolo yesithathu u (3). Umzila olandelayo (asithi ungowesibili) ubukeka umude okukathathu okwedlula lona owokuqala. Ngakho singakukhombisa lokhu ngokuwunikeza inombolo yesishiya galolunye u (9).

2. _____

Umzila wesithathu wona singathi mude okungokunye kokungokuthathu kobude bomzila wokuqala ngakho singawunikeza inombolo ekhombisa lokhu, u (1).

3. ____

1.1.3 ISIKHUMBUZO

Ungasebenzisa noma iyiphi inombolo oyikhethileyo. Kodwa qaphela ukuthi uvunyelwe ukusebenzisa noma iyiphi yezinombolo ezihlangeneyo (whole numbers), noma eziyingxenye (fractions) noma eziyisixhenxe (decimals). Asithi unikeze umzila wokuqala inombolo yokuqala u (1), ubunganikeza umzila wokugcina u (3) inombolo eyisixhenxe u .33. Zama ukwenza inombolo yinye nayinye iqondane nobude bomzila ngokombono wakho.

1.1.4. UMSEBENZI WOKWENZA ISINQUMO SOBUDE BOMZILA

Manje sizokwenza umsetshenzanyana wokwenza isinqumo sokuba umzila munye ngamunye mude okungakanani. Uzokhonjiswa imizila eyishumi ku “over-head projector”. Ungakhohlwa ukuthi kumele unikeze inombolo kumzila munye ngamunye ukuze ikhombwe ukuba umzila ngamunye mude okungakanani uma uqathaniswa nalo umzila owukhonjiswe kuqala kunombolo yokuqala u (1). Uzonikezwa isikhathi esingamasekhondi ayishumi ukuze unikeze inombolo yomzila ngamunye. Ikhasi lempendulo likukhasi elilandelayo.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
9. _____
10. _____

IKHASI LEZIMPENDULO ZOBUDE BEMIZILA

IGAMA LEMFIHLO:.....

1. _____
2. _____
3. _____

4. -----
5. -----
6. -----
7. -----
8. -----
9. -----
10. -----

KUKHONA ONOMBUZO NA?

1.2. UKWENZA ISINQUMO NGOKUQONDA KWEMISHO YESIZULU.

Inhloso yalo msetshenzanyana esizowenza ukwenza isinqumo ngokuqonda kweminye yemisho yesiZulu. Okokuqala nje, uzokhonjiswa imisho eminingana ku “over-head projector”. Imisho le yehlukile ngoba eminye yale misho iqondile noma singathi yakheke kuhle ngesiZulu, kanti njalo eminye yayo ayiqondanga noma singathi ayakhekanga kuhle ngesiZulu. Okudingekayo kulomsebenzi *yikuqonda kwalemisho ngendlela eyakheke ngayo.*

Uyacelwa-ke ukuba kulomsebetshenzanyana wenze isinqumo sokuba umusho ngamunye wakhe-ke kuhle noma kubi okungakanani uma uqathaniswa nalomusho owukhonjiswe kuqala njengalokhu okwenze uqathanisa ubude noma ubufushane bemizila ngokuyinikeza inombolo ozikhethela yona. Njengalokhu okwenze ngobude bemizila kusibonelo sokuqala, ungasebenzisa noma iyiphi inombolo ozikhethela yona. Kumusho ngamunye olandela owokuqala, nikeza inombolo ekhombisa ukuqonda noma singathi ukuqonda komusho ngendlela owakheke ngayo uma uqathaniswa nomusho wokuqala.

1.2.1 ISIBONELO

Uma unikezwe umusho olandelayo njengomusho wokuqala:

1. hlezi indoda njengengolovane.

Asithi uwunikeze inombolo yokuqala u (1) njalo umusho wesibili unjengalona olandelayo:

- 2.inja ubisi iphuze.

Uma lomusho ubonakala ukuthi uqonde okungamashumi amabili okwedlula lona owokuqala ungakukhombisa lokhu ngokuwunikeza inombolo u (20). Uma kubonakala ukuthi umusho lo owesibili uqonde okuyingxenywe kwalo owokuqala, ungawunikeza inombolo u ($\frac{1}{2}$).

2.1.2 QAPHELA OKULANDELAYO

Ungasebenzisa noma iyiphi yezinombolo ezilophawu olukhomba ukuhlunganisa (positive numbers) njalo uma kudingeka ungasebenzisa inombolo eziyingxenywe (fractions) noma eziyisixhenxe (decimals). Akudingekile ukuba ucindezelele ekusebenziseni indlela okumakwa ngayo esikoleni (an academic marking scale). Awuvunyelwa ukusebenzisa inombolo ezilophawu lokususa (minus numbers) noma iqanda (zero) ngoba lezi akuzona inombolo noma ingxenywe yezinombolo ezilophawu olukhomba ukuhlunganisa. Uma sewukhohlwe umusho wokuqala, ungakhathazeki. Uma izinqumo zakho ngokuqonda kwemisho uzenze ngokuqathanisa nomusho wokuqala, ungenza isinqumo sokuba umusho lona uqonde okungakanani ngokuwuqathanisa nawuphi umusho osawukhumbulayo.

Akukho impendulo “eqondileyo” ngakho lokho okubukeka kuqondile ngombono wakho kuyimpendulo kithi. Ngokunjalo, akukho esingathi kuzimpendulo eziqondileyo, noma izinombolo okuqondileyo ukuthi uqale ngazo. Ungasebenzisa noma iyiphi inombolo elophawu lokuhlanganisa (positive number) kumusho wokuqala okuyiwona ozowusebenzisa ngengomusho wokuqathanisa yonke imisho elandelayo. Ngemva kwalokho, esikudingayo, ngombono wakho wokuqala (first impressions), ngakho akudingekile ukuthi uchithe isikhathi ucabanga ngesinqumo ozosenza.

2.1.3. ISIKHUMBUZO:

1. Sebenzisa inombolo ozikhethile yona elophawu lokuhlanganisa (positive numbers) kumusho wokuqala obhalwe ngamagama amakhulu okwedlula eminye.
2. Yenza isinqumo ngokuqonda kwendlela imisho elandelayo eyakheke ngayo ngesiZulu uma iqathaniswa nomusho wokuqala obhalwe ngamagama amakhulu. Lokhu ukwenza ngokunikeza inombolo ekhomba ukuqonda komusho uma uqathaniswa nale oyinikeze umusho wokuqala.
3. Sebenzisa noma iyiphi inombolo enophawu lokuhlanganisa obona ukuthi ifanele. Ungasebenzisa inombolo eziyingxenywe (fractions) noma eziyisixhenxe (decimals) kodwa-ke awuvunyelwa ukusebenzisa inombolo ezilophawu lokususa (negative numbers) kunye neqanda (zero).
4. Unikezwe isikhathi esingamasekhondi ayisikhombisa ukuze ufake inombolo eceleni komusho ngamunye ozowubona ku “over-head projector”.

2.1.4 UMSETSHENZANYANA OMFUSHANE

Uzokhonjiswa imisho eyishumi ku “over-head projector” Uyacelwa ke ukuba wenze njengalokhu ukhonjisiwe ngaphezulu. Ikhasi lempendulo zalomsebenzi zikukhasi elilandelayo.

1. Usana bancele kusasa.

2. Udlamini ubukeka ekhathazekile kakhulu.

3. UDLamini uzothuka ingane ngonyaka ophelileyo.
4. UThemba ingane ifuna ngiyagijima mina njalo.
5. Umfana zithenga inyama izolo ngoba yisitolo.
6. Ibhubesi yisilwane esesabekayo kakhulu.
7. UThoko uhambe unogwaja ngabafana edolobheni.
8. Ibhubesi ngibone isilwane uThemba uhambe.
9. Umuntu ufuna inyama yenkomo ngoba imnandi.
10. Ingane zibone unogwaja phandle.

IKHASI LEZIMPENDULOZEMISHO YESIZULU

IGAMA LEMFIHLO:.....

1. -----
2. -----
3. -----
4. -----
5. -----

6. -----
7. -----
8. -----
9. -----
10. -----

2. OKUPHATHELENE NE “RATING TASK”

2.1. OKUMELE UKWENZE

Uphiwe isikhathi esingamasekhondi ayisikhombisa (seven seconds) ukuze ufunde umusho ngamunye walemisho elandelayo ezokhonjiswa ku ‘over-head projector’. Uma ucabanga ukuthi umusho uqondile noma sithi wakheke kuhle ngesiZulu (isiZulu esihle), ungakukhombisa lokhu ngokugombolozela inombolo yesihlanu (number 5). Uma ucabanga ukuthi umusho awuqondanga noma sithi awakhekanga kuhle ngesiZulu (isiZulu esibi) ungakukhombisa lokhu ngokugombolozela inombolo yokuqala (number 1). Uma umusho ungesona isiZulu esihle njalo ungesona futhi isiZulu esibi ungakukhombisa lokhu ngokugombolozela inombolo yesibili (number 2), yesithathu (number 3) noma eyesine (number 4) kusiya ngokuthi umusho uvumelekile noma awuvumelekanga okungakanani ngesiZulu. Awuvunyelwa-ke ukuguqula umqondo wakho ngemva kokuba ugombolozele impendulo yakho yomusho ngamunye.

2.1.1 IZIBONELO

1. Ubaba uZashuke wakhe ngaseThekwini.

Njengoba lomusho uqondile ngesiZulu, noma singathi wakheke kuhle ngesiZulu, impendulo eqondileyo ukugombolozela inombolo yesihlanu, u (5), njengalokhu ukhonjisiwe ngaphansi.

1 2 3 4 5

2. USipho amaBhunu namaNgisi angizukuhamba ngoThemba.

Umusho lona wesibili, u (2) awuqondanga noma singathi awakhekanga kuhle ngesiZulu, impendulo eqondile ukugombolozela inombolo yokuqala njengalokhu ukhonjisiwe ngaphansi.

① 2 3 4 5.

3. USipho emakethe uzokuya.

Umusho ongaphezulu, u (3), awusona isiZulu esihle njalo awusona isiZulu esibi kangako. Ucishe waba ngumusho owakheke kuhle ngesiZulu noma nje kukhona okungasingculisiyo ngendlela owakheke ngayo ngakho singakukhombisa lokhu ngokugombolozela inombolo yesine njengalokhu okukhonjisiwe ngaphansi.

1 2 3 ④ 5

4. USipho ingane zokuya emakethe.

Umusho wesine, u (4), awusona isiZulu esihle njalo awusona isiZulu esibi kakhulu. Ucishe waba ngumusho ongaqondile ngesiZulu noma nje ungemubi kakhulu. Singakukhombisa lokhu ngokugombolozela inombolo yesibili, u (2) njengalokhu ukhonjisiwe ngaphansi.

1 ② 3 4 5

2.1.2 QAPHELA OKULANDELAYO.

1. Gombolozela inombolo yesihlanu, u (5) uma umusho ukhomba isiZulu esihle/esiqonqileyo.
2. Gombolozela inombolo yokuqala, u (1) uma umusho ungesona isiZulu esihle noma sithi ungaqondanga.
3. Gombolozela inombolo yesibili, u (2), inombolo yesithathu u (3) noma eyesine u (4) kusiya ngokuthi umusho uqonde noma sithi uyisiZulu esihle okungakanani.
4. Awuvunyelwa ukuguqula umqondo ngemva kokuba ugombolozele inombolo, ngamafushane singathi awuvunyelwa ukucima uma usugombolozele inombolo.
5. Unikezwe isikhathi esingamasekhondi ayisikhombisa ukuze ugombolozele inombolo kumusho munye ngamunye.

2.1.3 UMSETSHENZANYANA OMFUSHANE

Lapha unikezwe imisho eyishumi. Ngakho-ke uyacelwa ukuba ukhombise ngokugombolozela inombolo yinye kumusho ngamunye ukuze uveze obala ukuba umusho ukhomba isiZulu esinjani. Ikhasi lempendulo likukhasi elilandelayo.

- 1. Ibhubesi ngibone isilwane uThemba uhambe.
- 2. UDlamini uzothuka ingane ngonyaka ophelileyo.
- 3. UThemba ingane ufuna ngoba bona ngumZulu kusasa?
- 4. UThoko uhambe unogwaja ngabafana edolobheni.
- 5. UDlamini ubukeka ekhathazekile kakhulu.
- 6. Umfana zithenga inyama izolo ngoba yisitolo.
- 7. Usana bancele kusasa izolo ngoba.
- 8. Ingane zibone unogwaja phandle.
- 9. UDlamini uzothuka ingane ngonyaka ophelileyo.
- 10. Umuntu ufuna inyama yenkomo ngoba imnandi.

IKHASI LEMPENDULO SOMSEBENZI WE “RATING TASK”

IGAMA LEMFIHLO:.....

<u>ISIZULU ESIBI</u>			<u>ISIZULU ESIHLE</u>		
1.	1	2	3	4	5
.....					
2.	1	2	3	4	5
.....					
3.	1	2	3	4	5

.....

4.	1	2	3	4	5
----	---	---	---	---	---

.....

5.	1	2	3	4	5
----	---	---	---	---	---

.....

6.	1	2	3	4	5
----	---	---	---	---	---

.....

7.	1	2	3	4	5
----	---	---	---	---	---

.....

8.	1	2	3	4	5
----	---	---	---	---	---

.....

9.	1	2	3	4	5
----	---	---	---	---	---

.....

10.	1	2	3	4	5
-----	---	---	---	---	---

.....

3. Indatshana enamagama acinyiwe

OKUMELE UKWENZE

Kulesisiqephu sendatshana kunezikhala lapho okunamagama acinywe khona. Yifundisise lendatshana ubese ugqwalisa isikhala ngasinye ngasinye ngegama elenza umusho nayo-nje indatshana okukhulunywa ngayo. Okokuqala, fundisisa ikhasi lokuqala lalendatshana ungakaze uqale ukugqwalisa izikhala. Uphiwe imizuzu emihlanu ukuze wenze lomsebenzi.

Isibonelo:

Lashona ilanga, zaqhakaza izinkanyezi. Kwabizwa umthandazo. Nasemthandazweni akezanga, wahlala nje esibayeni. Ngemuva komthandazo lezwakala izwi likayise phandle:

“Jabulani!”

“Baba!”

“Ngena endlini; kuhlwile manje!”

Wasukuma wangena endlini, unina wamupha ukudla (1) _____.

Pho-ke lokhu indaba ihambisa okomlilo, lathi (2) _____ ilanga wasewazi wonke umuzi ukuthi umfana (3) _____ ubengomunye wabafana ababanjiwe. Phela kakade inala (4) _____ kuhamba indlala. Indaba kaJabulani bayifafaza onozindaba, (5) _____ bezabanye ezabo zibakhohlile, sebeyinonga beyenza konke. (6) _____ nibone uma kuze kuhleke noMaNkKala abantu (7) _____ abangane bakwaDlamini. Wawungeke umswela kwaDlamini. (8) _____ kancane usekhona, kancane kancane usekhona. Wawungaze (9) _____ ugomele ubeke nenkomo yakho uthi impela (10) _____ bonke bengamfisela okubi owakwaDlamini uMaNkKala nguyena (11) _____ ongasala emfisela okuhle, kanti ukhe phansi.

(12) _____ ngalo lelolanga okwathethwa ngalo icala, uyasuka (13) _____ uqonda kwaMaMdunge. Pho lokhu uma behamba (14) _____ kugcwele lapha ezifubeni, bahambisa okwabantu abasha (15) _____ esabasinda ngisho namanoni abo. Amadolo abo (16) _____ abawabika imihla le angabe esaziwa, ngoba (17) _____ siyagubhazela, sifuna ukuphungulwa. Lwabaluhle-ke nonyawo lwakhe (18) _____ wamfica umnumzane engekho.

NGIYABONGA KAKHULU

Summarised Instructions

TASK: ME

1. In this task what you have to do is to assign numbers to sentences in proportion to how acceptable you think they are. That is; give the first sentence you see ANY NUMBER you wish. Then assign the successive sentence numbers depending on how acceptable you think they are in proportion to the first. We will do some examples together to illustrate this point.

We will practice by estimating line length in proportion to one another. Look at the following 3 lines carefully.

1. _____	1	-----
2. _____	2	-----
3. _____	3	-----

Now think of a number to represent the length of line 1. Any number will be fine. Write it down in the dotted line. How long do you think line 2 is in proportion to the first? $\frac{1}{2}$ as long? Then multiply the number you gave line 1 by 3 and write it down in the dotted line of number 2.

Now how long do you think line 3 is in proportion to the first, Three quarters or two thirds? Then assign it a number that is three quarters or two thirds of the number assigned to line 1.

Example 2: We can estimate the acceptability of sentences in the same way by assigning numbers on how acceptable you think they are in proportion to the first sentence. Look at sentence 1.

1. Ubaba uhlezi isitulo.

Do you think this sentence is acceptable? Assign this sentence any number of your choice. Now look at sentence 2.

2. UThoko ubone abafana.

Is this sentence more or less acceptable than the first? Now look at sentence 3.

3. UThoko abafana ibhubesi amaNgisi ngoba.

How acceptable is this sentence in proportion to the first sentence? In proportion to the second sentence?

2. As you can see there are degrees of acceptability. What you have to do is to assign numbers depending on how acceptable. You think sentences 2 and 3 are in proportion to the first. If you think sentence 2 is half as acceptable as sentence 1 then assign it half the amount you gave sentence 1. If you think sentence 3 is $\frac{1}{5}$ or $\frac{1}{3}$ as acceptable then assign one third the amount given to sentence 1. Remember, the more acceptable the sentence is, the higher the number it gets.

3. You will both see and hear one sentence at a time. Please keep to the speed dictated by the tape.

4. There are 52 sentences here and it should take approximately 10 minutes.

5. Write the number in the **DOTTED LINES**.

TASK: RATING

1. In this task you have to indicate your opinion about the acceptability of the sentence by circling the appropriate number you want. The numbers indicate a scale of acceptability. We will do some examples together to illustrate this point.

Ubaba UZashuke wakhe ngase Thekwini.

1 2 3 4 5

Since the above sentence is perfectly good Zulu, we can circle the number 5.

Another example would a sentence like:

Umama ugogo ingane mina bonke ngoba.

1 2 3 4 5

The above sentence is very bad Zulu so we circle number 1 on the answer sheet.

A third example could be:

UThoko emakethe uzokuya.

1 2 3 4 5

The above sentence is neither good nor bad Zulu. It is almost OK but not exactly very good Zulu so we can show this by circling 4.

A fourth example would be:

UThoko uzokuya emakethe ngane.

1 2 3 4 5

The above sentence is neither good nor bad Zulu. It is almost bad, but not very bad so we can show this by circling 2 as shown.

2. Always circle number 5 if the sentence is perfectly good Zulu.

3. Circle number 1 if the sentence is very bad Zulu.

4. Circle number 2, 3 or 4 if the sentence is neither good nor bad Zulu depending on the degree of acceptability of the sentence.

5. Do not change your mind once you have circled a number. This is not a grammar test. There are no right or wrong answers.

6. You are given only 10 seconds to provide an answer for each sentence.

7. This task has 52 sentences and it should take approximately 10 minutes.

Okumele Kwenzwe Ngokuphathelene Nemisho YesiZulu.

1. Inhloso yalomsetshenzanyana iphathelene nendlela ulwimi olungesilona lwethu olumi ngayo emqondweni yethu. Njengoba nifunda ulwimi lwesiZulu ngifuna nikhombise imibono yenu ngemisho yesiZulu enizoyizwa niphinde niyibone ebhodini. Akukho mpendulo eqondile. Imibono yenu iqakathekile kakhulu.

2. Niyocelwa ukuba nikhombise ukuba imisho elandelayo ingaba yimisho ekhulumayo ngesiZulu. Kungenzeka imisho ibe iqondile ngokwemitheshwana yezolwimi (grammar rules) kodwa-ke ibe ingakhulumi ngesiZulu. Isibonelo:

UThoko udle ibhubesi ebihlezi nogogo.

Umusho lona uqondile ngoba imitheshwana yonke yezolwimi ilandelwe. Kodwa-ke lomusho awukhulumi ngesiZulu. Asibuke imisho elandelayo njalo:

(a) Uhlezi nje, kodwa nguye.

(b) UThoko, uThemba, onogwaja laba.

Imisho lena ayiqondanga ngemitheshwana yokwakha imisho kodwa-ke iyakhuluma ngesiZulu ngoba yindlela esikhuluma ngayo. Okuqakathekile kulomsetshenzanyana yindlela esikhuluma ngayo.

3. Nizokhonjiswa umusho munye ngamunye niphinde nilalele kuma "headphones". Ninikezwe isikhathi esingamasekhondi ayishumi ukuze ninikeze impendulo zenu. Anivunyelwe ukuguqula imiqondo yenu ngemva kokunikeza impendulo zenu.

4. Umusho nomusho wehlukile ngendlela owakhiwe ngayo ngakho-ke nani nizokuba nemibono ethi ukwehluka kumusho ngamunye. Akudingekile ukuba ufune ukuba unikeze impendulo efana neyomngane wakho. Ukwenza lokhu kungahle kuphazamise umsebenzi wonke.

5. Kuqakathekile **KAKHULU UKUBA NIPHENDULE YONKE IMIBUZO**. Kudingekile ukuba ningashiyi izikhala. Nikhumbule ukuba kudingeka impendulo yinye embuzweni munye ngamunye.

6. Ningabhali amagama enu kuncwajana yezimpendingulo. Kumele nisebenzise inombolo ezibhalwe kumapeni enizowasebenzisa.

7. Ngiyabonga kakhulu ngoncedo lwenu kulomsebenzi.

Okumele Kwenziwe Kumsebenzi we 'ME'

Kulomsebenzi kumele ninikeze kumusho ngamunye inombolo ekhomba ukuba umusho ukhuluma okungakanani uma uqathaniswa nemisho elandelayo. Niyacelwa ukuba ninikeze umusho wokuqala inombolo nayiphi enizikhethela yona. Imisho elandelayo kumele niyinineze inombolo kusiya ngokuba iqonde okungakanani uma iqathaniswa nalo owukhonjiswe kuqala. Sizokwenza isibonelo ngokusebenzisa ubude bemizila. Bheka imizila elandelayo ngokunakekela okukhulu. Bhekisisa imizila elandelayo ngokunakekela okukhulu.

1. _____

2. _____

3. _____

1. -----

2. -----

3. -----

Khetha inombolo, akukhathalekile yiphi. Yibhale lenombolo kumizidlanyana ethe ukwephulwa-phulwa. Ucabanga ukuthi umzila wesibili mude okungakanani uma uqathaniswa nomusho wokuqala? Ingxenywe? Thamuza (multiply) inombolo oyinikeze umusho wokuqala ngengxenywe ubese uyibhala lenombolo kukhasi lezimpendulo. Yenza okufanayo ngomzila wesithathu.

Isibonelo sesibili: Sinakho ukwenza isinqumo ngemisho yesiZulu njengalokhu esikwenze ngobude bemizila. Bukisisa umusho wokuqala.

1. Ubaba uhlezi isitulo.

Ucabanga ukuthi umusho lona uyakhuluma ngesiZulu? Wunikeze inombolo noma yiphi. Bukisisa umusho wesibili.

2. UThoko ubone abafana.

Uma uqathanisa umusho lona nalo owokuqala yiwuphi umusho oqonde okwendlula omunye? Buka umusho wesithathu.

3. UThoko abafana ibhubesi amaNgisi ngoba.

Ukhuluma okungakanani umusho lona uma uqathaniswa nomusho wokuqala? Nowesibili?

2. Lokhu esikwenzile kulezizibonelo kukhomba ukuba imisho ikhuluma ngokwehlukileyo. Okumele ukwenze yikunikeza imisho inombolo ozikhethile yona kusiya ngokuba umusho ukhuluma okungakanani. Umusho owakheke kahle uzowunikeza inombolo enkulu.

3. Nizobona niphinde nizwe umusho ngamunye. Kumele nilandele enikuzwa ethephini.

4. Kunemisho engamashumi amahlanu nambili engathatha imizuzu engathi ukwedlula ishumi kancane.

5. Kumele nibhale impendulo zenu kumizila ethe ukuphulwa-phulwa.

Okumele Kwenziwe Kumsebenzi we 'Rating'.

1. Kulomsebenzi kumele nikhombise indlela imisho ekhuluma ngayo ngokudweba ngaphansi kwenombolo oyikhethileyo. Inombolo zikhomba indlela imisho ekhuluma ngayo. Umusho owakheke kahle njalo okhulumayo ngesiZulu uzowunikeza inombolo yesihlanu. Umusho ongakhulumi uzowunikeza inombolo yokuqala. Singenza izibonelo ngemisho elandelayo.

Ubaba uZashuke wakhe ngaseThekwini.

Umusho lona uyakhuluma ngesiZulu ngakho sigombolozela inombolo yesihlanu kanje:

1 2 3 4 ⑤

Esinye isibonelo singaba ngumusho lona:

Umama ugogo ingane mina bonke ngoba

Umusho lona awukhulumi ngesiZulu ngakho sigombolozela inombolo yokuqala ukuze sikhombise lokhu.

① 2 3 4 5

Esinye isibonelo singaba ngumusho olandelayo.

UThoko emakethe uzokuya.

Umusho lona uyakhuluma, nomanje ungakhulumi kahle-hle ngesiZulu ngakho-ke sigombolozela inombolo yesine ukuze sikhombise lokhu.

1 2 3 ④ 5

Asibheke isibonelo sethu sokugcina.

UThoko uzokuya emakethe ingane.

Umusho lona ucishe ungakhulumi nomanje ungathi uyakhuluma kancane, kodwa cha, awukhulumi. Ngakho ukuze sikhombise lokhu kumele sigombolozele inombolo yesibili.

1 ② 3 4 5

Qaphela okulandelayo:

2. Kumele ugombolozele inombolo yesihlanu uma umusho ukhuluma ngesiZulu.
3. Kudingekile ukuba ugombolozele inombolo yokuqala uma umusho ungakhulumi.
4. Gombolozela inombolo 2, 3, no 4 uma umusho ungesona isiZulu esihle kusiya ngokuba ukhuluma ngokungakanani uma uqathaniswa neminye.
5. Ungaguquli umqondo wakho uma usugombolozele inombolo. Akuwona umhloliso lona. Akukho impendulo eqondileyo.
6. Unikezwe isikhathi esingamasekhondi ayishumi ukuze unikeze impendulo yomusho ngamunye.
7. Kunemisho engamashumi amahlanu nambili ngakho kungathatha imizuzu eyishumi ukuthi uphendule yonke imibuzo.

QUESTIONNAIRE

This questionnaire is asking about certain particulars about you in general and facts regarding your language learning. Your responses in this questionnaire are completely anonymous.

IDENTITY NUMBER:.....

1. What is your native language, i.e., your first language, the language spoken by you and your parents, including your closest relatives?

.....

2. What other languages do you speak? Can you please specify the level and the time of study/experience with each language.

Language	level	years of study/experience
.....
.....
.....
.....

3. Do you also speak any one of the other Nguni languages? (Ndebele, SiSwati, Xhosa)
YES NO. If so which one/s?-----

4. Is Zulu the latest language you are trying to learn? YES NO

5. Do you only learn Zulu in the classroom, i.e. on a language course? YES NO

6. Do you also learn Zulu with a private tutor? YES NO

7. If yes, how many lessons of Zulu do you have a week?

.....

8. How long have you been learning Zulu altogether? Please give number of years or months.

.....

9. For what purposes do you use Zulu for? Please tick as many as applies to you and add your purposes to Zulu if these are not included in the list below.

- ^ talking to friends/ colleagues in Zulu.
- ^ doing homework/grammatical exercises in Zulu.
- ^ reading Zulu newspapers/books.
- ^ listening to programmes in Radio Zulu.
- ^ watching CCV TV drama and movies in Zulu.

^ writing letters/notes/etc.

^
^
^
^

YOU IN GENERAL

10. How old are you? Please circle the age group you belong to.

above 12 years but below 17

above 17 but under 20

above 20 but below 25

from 25 yrs and above

11. Are you male or female? ***M F***

12. What is your occupation?

.....

13. What are your qualifications?

.....

THANK YOU VERY MUCH FOR HELPING ME WITH MY RESEARCH.

IKHWESINIYA

OKUMELE UKWENZE

Lekhwesiniya ikubuza ngokuphathelane nokufunda kwakho indimi. Impendulo zakho kule khwesiniya ziyokuba yimfihlo. Okokuqala nje, gcwalisa igama lakho lemfihlo ubese uphendula imibuzo elandelayo.

IGAMA LEMFIHLO:.....

1. Yiluphi ulimi olukhulunywa ekhaya (Lapha sishe ulimi olusebenzisa nabazali bakho kunye nezihlobo zasekhaya).

.....

2. Yiziphi ezinye indimi ozikhulumayo ngaphandle kolimi lwase khaya? Ungasho ngamafushane ukuthi wazifunda waze wafika kuliphi ibanga lezondimi. Khombisa iminyaka noma inyanga owazithatha ufunda lezondimi.

<u>Ulimi</u>	<u>Ibanga</u>	<u>Inyanga/Iminyaka</u>
.....
.....
.....
.....

3. Sewake wafundiswa ulimi lwesiZulu ngothisha esikoleni na? Faka uthweshu ukukhombisa impendulo yakho. **YEBO CHA**

4. Uma wafundiswa ulimi lwesiZulu esikolweni, othisha babechasisa imithetho elandelwayo ekwakhiweni kwemisho na? **YEBO CHA**

5. Uma walufunda esikolweni ulimi lwesiZulu uthathe inyanga/iminyaka emingaki?

.....

6. IsiZulu usisebenzisa kuphi? Ungakukhombisa lokhu ngokufaka uthweshu phambili kwempendulo oziphiwe ngaphansi. Unikezwe nezikhala ukuze uzigcwalise ngezakho izizatho lapho osebenzisa isiZulu khona.

^ Uma ngikhuluma nabangane/nalabo engisebenza/funda nabo

- ^ Uma ngenza umsebenzi wesikolo ezifundweni zolimi lwesiZulu.
- ^ Ekufundeni incwadi kunye namaphephandaba esiZulu.
- ^ Ukubuka imidlalo namafilemu esiZulu kuCCV TV.

.....

.....

.....

.....

MIBUZO EMAYELANA NAWA NJE

7. Uneminyaka emingaki yokuzalwa? Ungakukhombisa loku ngokufaka uthweshu lapho okuqondana nobudala bakho.

- ^ ngaphansi kweshumi nambili.
- ^ ngaphezu kweshumi nambili kodwa ngaphansi kweshumi nesikhombisa.
- ^ phakathi kweshumi nesishiya-galombili namashumi amabili nanhlanu.
- ^ ngaphezu kweminyaka engamashumi amabili nanhlanu.

8. Ubulili bakho. Ungowesilisa noma owesifazana? Ungakukhombisa lokhu ngokufaka uthweshu.

SILISA SIFAZANE

9. Uyasebenza noma ungena isikoleni?

.....

10. Unama khwalifikheshini maphi?

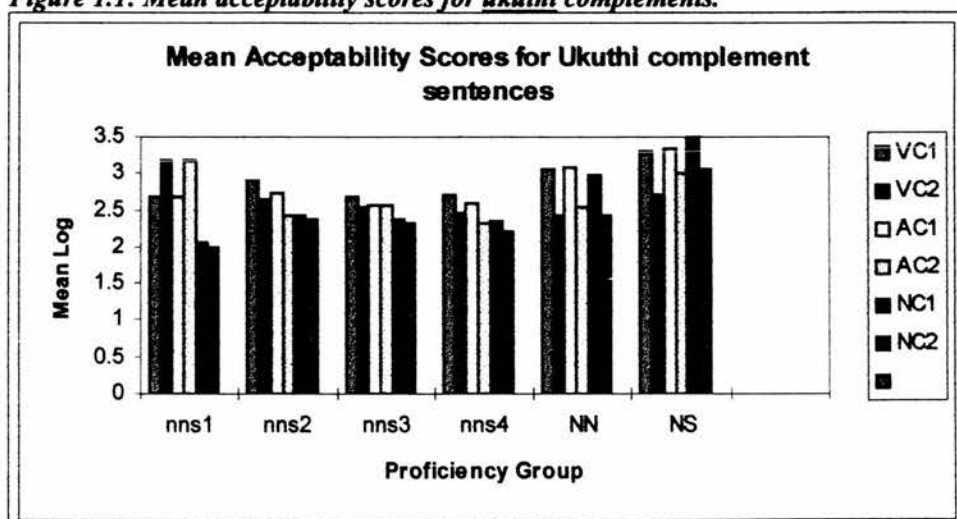
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RESULTS OF MAGNITUDE ESTIMATION (COMPLEMENTATION)

Table 1: Means acceptability scores for *Ukuthi* complements.

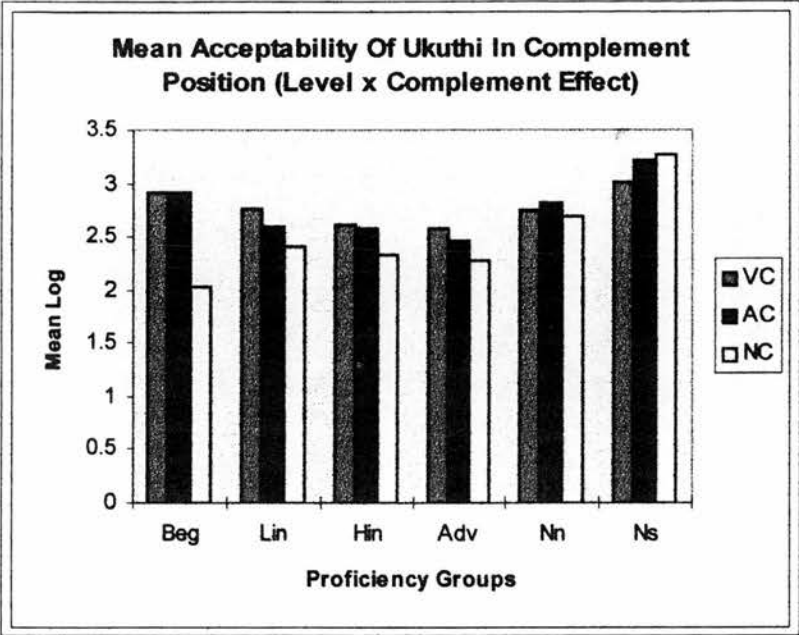
	nns1	nns2	nns3	nns4	nns5	Ns	All
C1U1	2.6694	2.8931	2.6850	2.7027	3.0612	3.3053	2.8811
C1U2	3.1773	2.6391	2.5538	2.4478	2.4381	2.6991	2.6810
C2U1	2.6666	2.7454	2.5773	2.6041	3.0991	3.3442	2.8373
C2U2	3.1740	2.4378	2.5827	2.3270	2.5537	3.0003	2.7306
C3U1	2.0411	2.4407	2.3710	2.3527	2.9676	3.4954	2.6114
C3U2	2.0094	2.3721	2.3107	2.2145	2.4200	3.0639	2.3984
C1	2.9228	2.7661	2.6194	2.5753	2.7497	3.0022	2.7811
C2	2.9203	2.5916	2.5800	2.4655	2.8264	3.2139	2.7839
C3	2.0253	2.4064	2.3408	2.2836	2.6938	3.2797	2.5049
U1	2.4590	2.6931	2.5444	2.5532	3.0426	3.3817	2.779
U2	2.7869	2.4830	2.4824	2.3298	2.4706	2.9489	2.6033
All	2.6230	2.5881	2.5134	2.4415	2.7566	3.1653	2.2015

Key:

C1---V complement, C2---A complement, C3---verb-object-complement, U1--*+ukuthi*, U2-- *-ukuthi*.**Figure 1.1: Mean acceptability scores for *ukuthi* complements.**

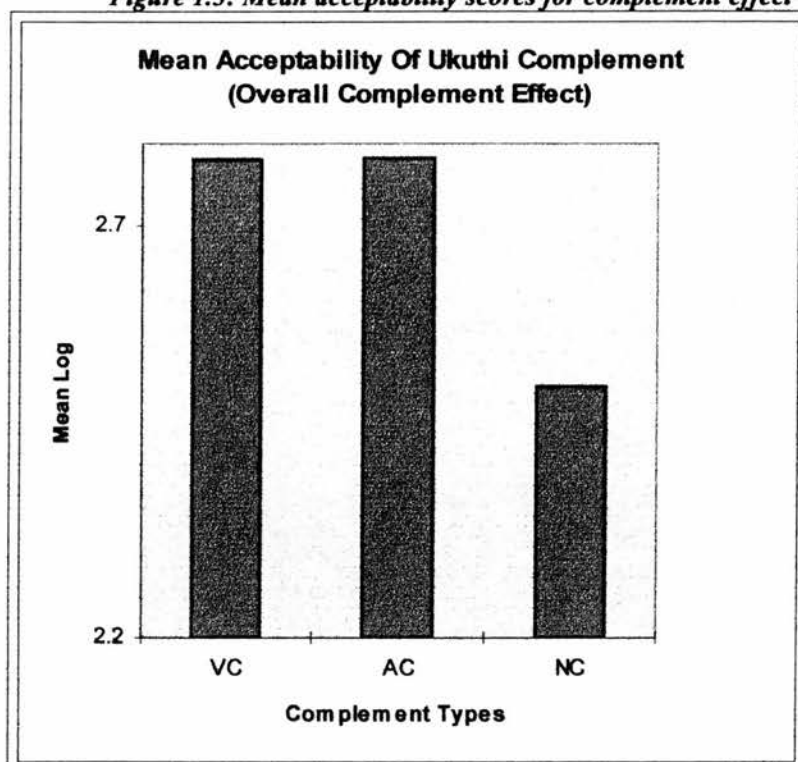
Key: Complement Types: V-- verb, A-- adjective, N--verb-object-complement clauses.
 Sentence-Types: C1 --[+comp], C2-- [-comp]

Figure 1. 2: Mean acceptability scores for complement-type by level effect



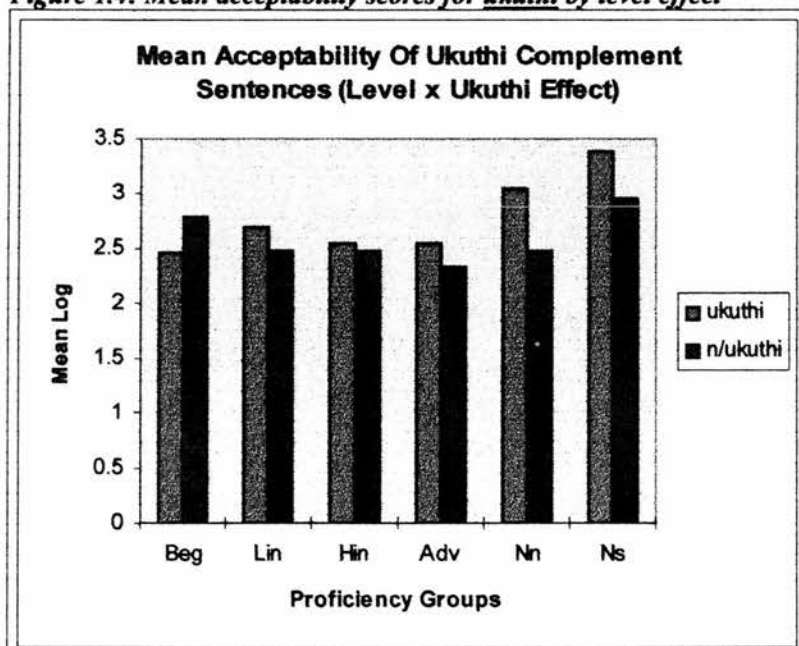
Key: C1– Verb complement; C2– Adjective complement; C3– verb-object-complement clauses.

Figure 1.3: Mean acceptability scores for complement effect



Key: VC-- Verb complement; AC-- Adjective complement; NC-- verb-object-complemen-clauses.

Figure 1.4: Mean acceptability scores for ukuthi by level effect



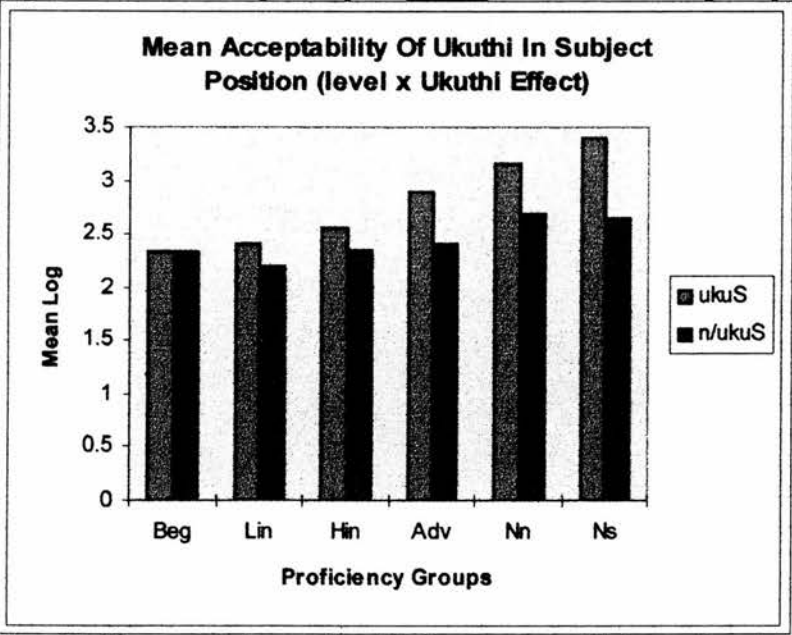
Key: ukuthi-- sentence with ukuthi; n/ukuthi -- sentence without ukuthi.

Table 2: Mean acceptability scores for Ukuthi as a sentential subject.

	nns1	nns2	nns3	nns4	nns5	Ns	All
U1	2.3364	2.4087	2.5600	2.9067	3.1646	3.4070	2.7972
U2	2.3396	2.2089	2.3438	2.4112	2.6903	2.6507	2.4408
All	2.3380	2.3087	2.4519	2.6590	2.9275	3.0289	2.619

Key: U1– [+comp], U2- [-comp].

Figure 2.1: Mean acceptability for Ukuthi as a sentential subject by level.



Key: UkuS–sentence [+comp]; n/ukuS– sentence with [-comp].

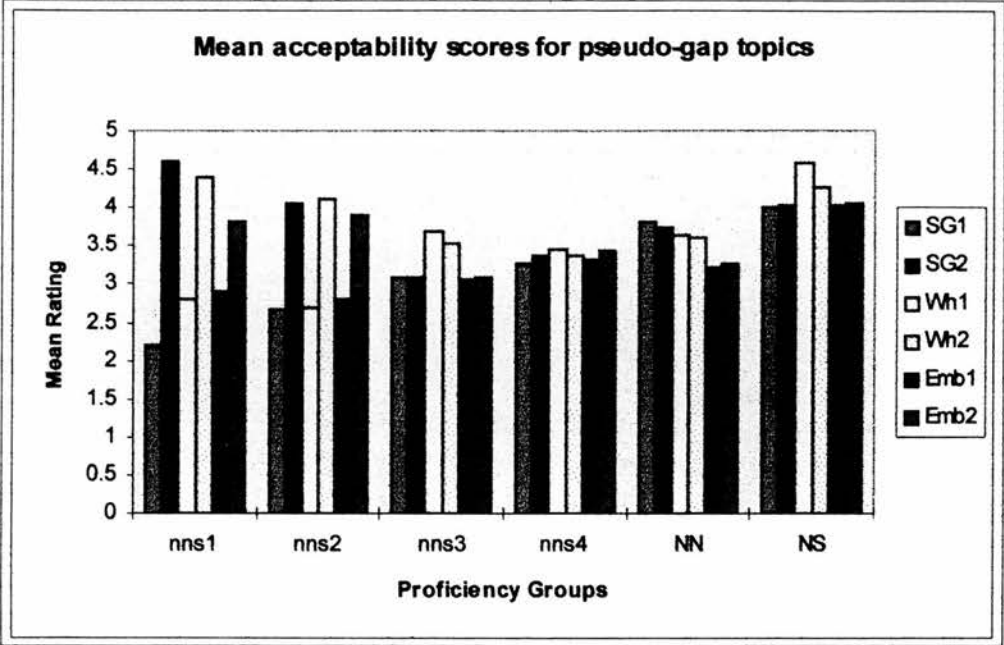
RESULTS OF RATING TASK: TOPIC STRUCTURES

Table 1: Mean acceptability scores for pseudo-gap topics

	nns1 (N=36)	nns2 (N=23)	nns3 (N=36)	nns4 (N=34)	nns5 (N=22)	Ns (N=38)	All (N=189)
SG1	2.2083	2.6739	3.0870	3.2647	3.8214	4.0000	3.1759
SG2	4.6136	4.0652	3.0833	3.3824	3.7558	4.0307	3.8218
WhIG1	2.8106	2.6957	3.6957	3.4436	3.6508	4.5785	3.4792
WhIG2	4.3947	4.1176	3.5455	3.3818	3.6058	4.2626	3.8847
Emb1	2.9038	2.8056	3.0588	3.3280	3.2237	4.0370	3.2260
Emb2	3.8333	3.9028	3.0909	3.4356	3.2647	4.0652	3.5988
S	3.4110	3.3696	3.0852	3.3236	3.7886	4.0154	3.4989
WhI	3.6027	3.4067	3.6206	3.4127	3.6283	4.4206	3.6812
Emb	3.3681	3.3542	3.0749	3.3818	3.2442	4.0511	3.3291
G1	2.6406	2.7251	3.2805	3.3454	3.5653	4.2052	3.2937
G2	4.2805	4.0285	3.2399	3.3999	3.5421	4.1195	3.7684
All	3.4606	3.3768	3.2602	3.3727	3.5537	4.1623	3.5311

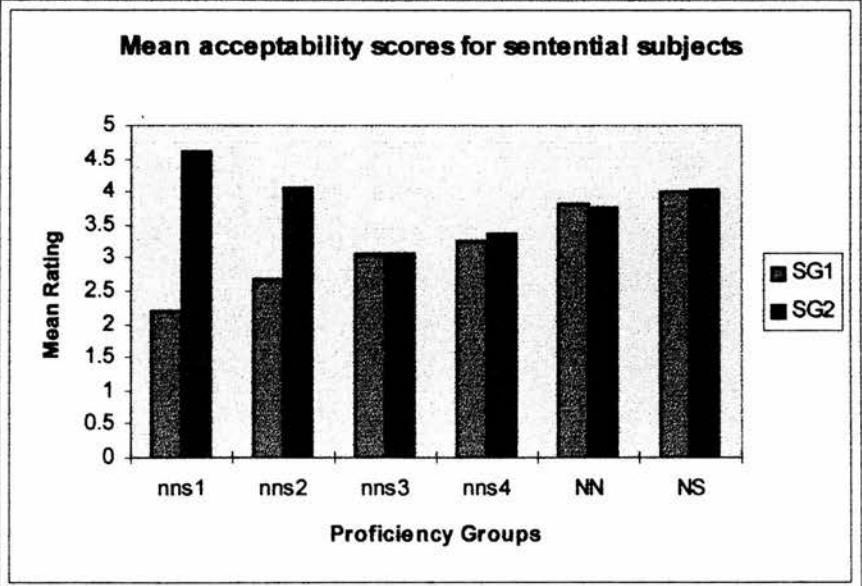
Key: Island-types: S-- sentential subjects; WhI-- wh-island; Emb-- Embedded clause
Sentence-type---G1 gap sentence; G2-- non-gap sentence

Figure 1.1. Mean acceptability scores for pseudo-gap topics.



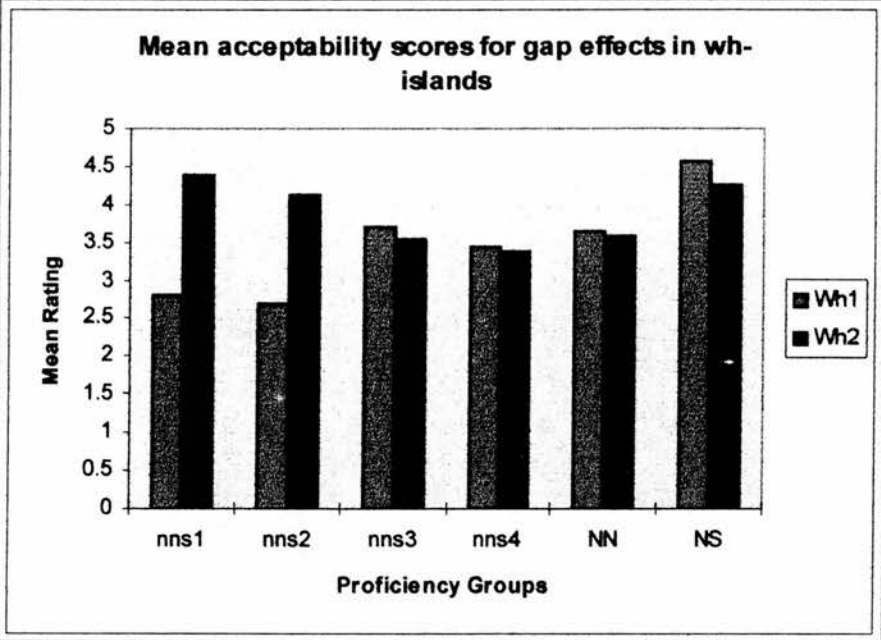
Key: Island-type: SG-- sentential subject, Wh-- wh-island, Emb-- Embedded clause
Sentence-type: 1-- gap sentence, 2-- non-gap sentence.

Figure 1.2. Mean acceptability scores for sentential subjects



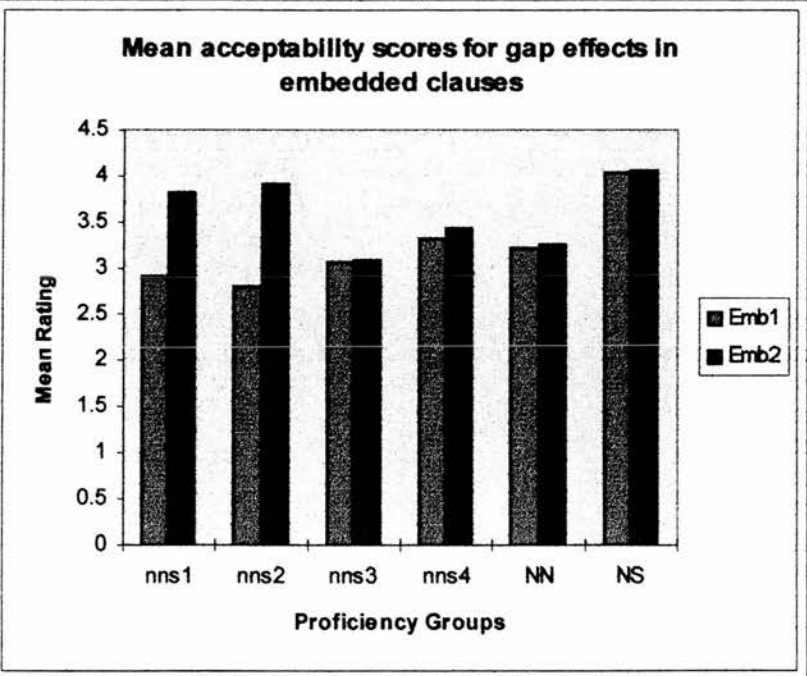
Key: SG1-- sentential subject with gap, SG2-- sentential subject without gap.

Figure 1.3 Mean acceptability scores for wh-islands



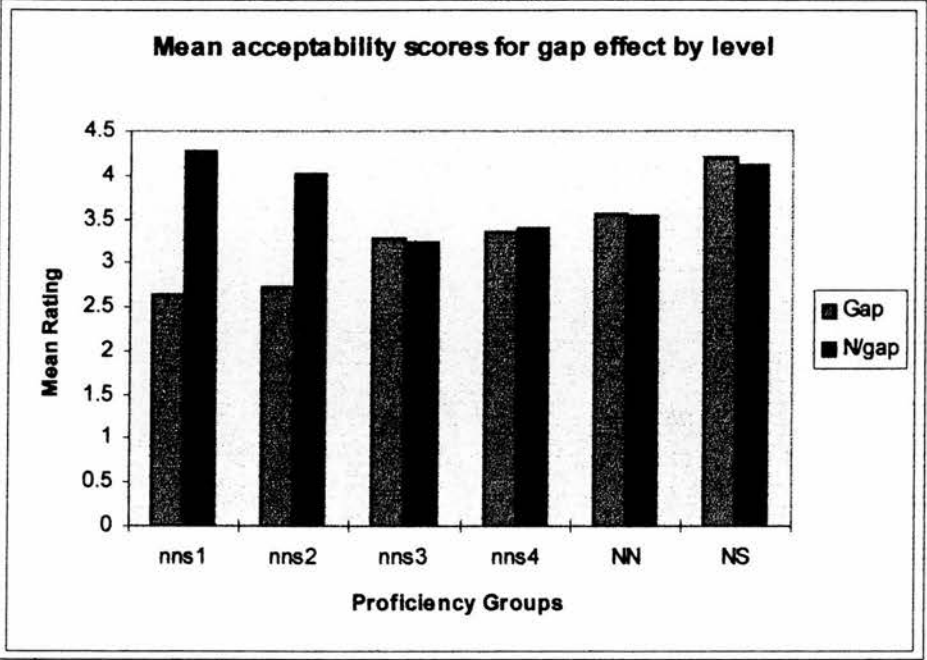
Key: Wh1-- gap in wh-island; wh2, no gap in wh-island.

Figure 1.4. Mean acceptability scores for embedded clauses



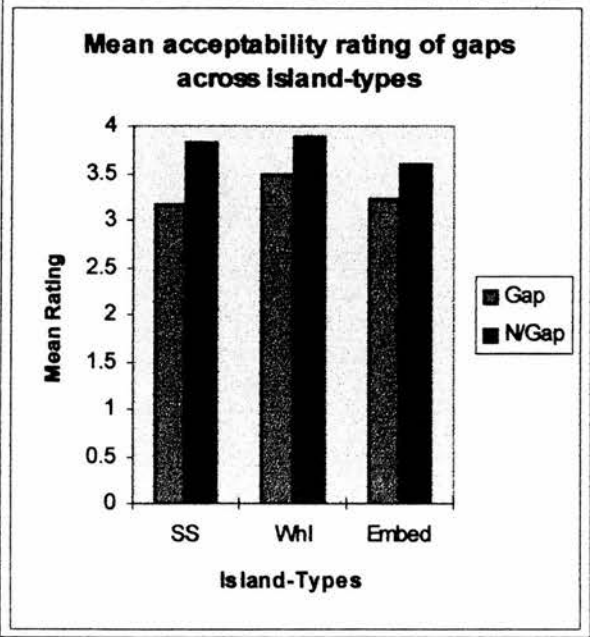
Key: Emb1-- embedded clause with gap; emb2-- embedded clause without gap

Figure 1.5: Mean acceptability scores for gap effects by level.



Key: Gap-- sentence with gap; N/gap-- sentence without gap.

Figure 1.6 Mean acceptability scores for gap effects

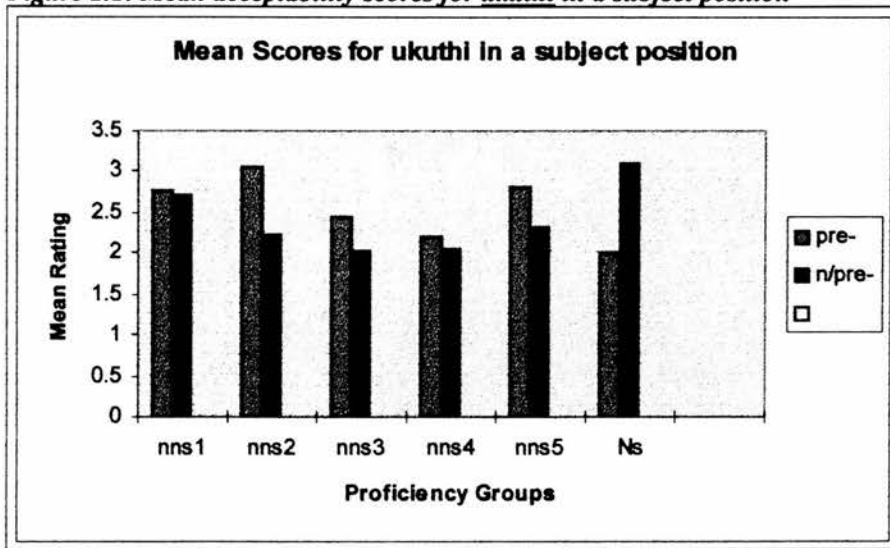


Key: Island-types: SS-- sentential subjects; Whl-- wh-island; Embed-- embedded clause
Sentence-type: Gap-- gap sentence; N/gap-- sentence without gap.

Table 2: Mean acceptability scores for in-built topics.

	nns1 (N=36)	nns2 (N=23)	nns3 (N=36)	nns4 (N=34)	nns5 (N=22)	Ns (N=38)	All (N=189)
pre	2.7661	3.0539	2.4463	2.2121	2.8226	2.0066	2.5513
n/pre	2.7076	2.2161	2.0433	2.0654	2.3161	4.2051	2.5490
All	2.7368	2.4395	2.2448	2.2448	2.635	3.1059	2.5501

Figure 2.1: Mean acceptability scores for ukuthi in a subject position



Key: pre- Topic with pre-expression, n/pre- Topic without pre-expression.

Simple Linear Regression Analysis: In-built topics as Predictors.

Table 3: Simple Linear Regression for sentential subjects using in-built topics as predictor.

df	R ²	t-ratio	p
145	10.7%	17.33	0.000

The regression equation is $TSS = 1.50 + 0.572 IBT$

Table 4: Simple Linear Regression for wh-islands using in-built topics as predictor.

df	R ²	t-ratio	p
143	12.6%	20.49	0.000

The regression equation is Wh-Islands = 1.78 +0.532 IBT.

Table 5: Simple Linear Regression for embedded clauses using in-built topics as predictor.

df	R ²	t-ratio	p
146	23.6%	44.52	0.000

The regression Equation is Embed = 1.34 + 0.578 IBT.

ME TASK: ANOVA TABLES FOR ALL SUBJECTS

Table 1.1 Magnitude Estimation. Ukuthi Complement Selection All Subjects

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	958.55	181	5.30		
Level	77.62	5	15.52	2.93	.014
Within + Residual	69.54	362	.19		
Complement	4.26	2	2.13	11.08	.000
Level x Complement	9.53	10	.95	4.96	.000
Within + Residual	61.40	181	.34		
Ukuthi	7.17	1	7.17	21.14	.000
Level x Ukuthi	35.24	5	7.05	20.78	.000
Within Cells	47.46	362	.13		
Complement x Ukuthi	.57	2	.28	2.17	.115
Level x Complement x Ukuthi	1.26	10	.13	.96	.476

Table 1.2 Magnitude Estimation: Ukuthi asa tensed sentential subject. All Subjects

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	336.26	183	1.84		
Level	33.10	5	6.62	3.60	.004
Within + Residual	48.01	183	.26		
Ukuthi	1.43	1	1.43	5.47	.020
Level x Ukuthi	17.28	5	3.46	13.17	.000

Table 2.1. Magnitude Estimation: In-built Topics. All Subjects

Source Of Variation	SS	DF	MS	F	Sig Of F
Within Cells	362.66	182	1.99		
Level	31.09	5	6.22	3.12	.010
Within Cells	39.71	182	.22		
Pre-Expr	8.25	1	8.25	37.80	.000
Level x Pre-Expr	5.46	5	1.09	5.01	.000

Table 2.2. Magnitude Estimation: Pseudo-gap Topics. All Subjects

Source Of Variation	SS	DF	MS	F	Sig Of F
Within Cells	979.95	180	5.44		
Level	129.59	5	25.92	4.76	.000
Within Cells	36.22	180	.20		
Gap	2.96	1	2.96	14.70	.000
Level x Gap	11.20	5	2.24	11.13	.000
Within Cells	65.54	360	.18		
Island-Type	.08	2	.04	.22	.806
Level x Island-Type	3.54	10	.35	1.95	.038
Within Cells	67.65	360	.19		
Island-Type x Gap	6.11	2	3.05	16.25	.000
Level x Island-Type x Gap	1.66	10	.17	.88	.548

RATING TASK: ANOVA TABLES FOR ALL SUBJECTS

Table 1.1. Rating Ukuthi Complement Selection. All Subjects.

Source Of variation	SS	DF	Ms	F	Sig of F
Within + Residual	347.70	183	1.90		
Level	84.90	5	16.98	8.94	.000
Within + Residual	212.05	366	.58		
Complement	5.33	2	2.67	4.60	.011
Level x complement	67.51	10	6.75	11.65	.000
Within + Residual	98.90	183	.54		
Ukuthi	63.51	1	63.51	117.52	.000
Level x Ukuthi	7.84	5	1.57	2.90	.015
Within Cells	225.90	366	.62		
Complement x ukuthi	9.01	2	4.51	7.30	.001
L x Comp x ukuthi	40.09	10	4.01	6.50	.000

Table 1.2. Rating: Ukuthi as a tensed sentential subject. All Subjects.

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	173.94	183	.95		
Level	13.43	5	2.69	2.83	.018
Within + Residual	107.60	183	.59		
Ukuthi	66.60	1	66.60	113.27	.000
Level x Ukuthi	59.15	5	11.83	20.12	.000

Table 2.1 Rating: In-built Topics. All Subjects

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	139.29	183	.76		
Level	91.03	5	18.21	23.92	.000
Within + Residual	76.14	183	.42		
Ukuthi	14.44	1	14.44	34.71	.000
Level x Ukuthi	14.44	5	2.89	6.94	.000

Table 2.2. Rating: Pseudo-gap Topics. All Subjects.

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	266.45	183	1.46		
Level	26.59	5	5.32	3.65	.004
Within + Residual	277.03	366	.76		
Island-type	76.42	2	38.21	.48	.067
Level x Island-type	77.34	10	7.73	10.22	.000
Within + Residual	111.71	183	.61		
Gap	2.82	1	2.82	4.62	.033
Level x Gap	15.70	5	3.14	5.14	.000
Within Cells	258.33	366	.71		
Island-type x Gap	127.46	2	63.73	90.29	.000
Level x Island-type x Gap	43.91	10	4.39	6.22	.000

ME TASK: ANOVA TABLES FOR THE ZSL GROUP ONLY

Table 1.1 Magnitude Estimation. Ukuthi complementizer selection. ZSL ONLY

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	274.24	146	1.88		
Level	62.71	4	15.68	8.35	.000
Within + Residual	173.68	292	.59		
Complement	6.31	2	3.16	5.31	.005
Level x Complement	48.36	8	6.05	10.16	.000
Within + Residual	81.55	146	.56		
Ukuthi	47.82	1	47.82	85.62	.000
Level x Ukuthi	7.36	4	1.84	3.30	.013
Within Cells	94.66	116	.82		
Complement x Ukuthi	28.34	2	14.17	17.37	.000
Level x Complement x Ukuthi	2.46	2	1.23	1.51	.225

Table 1.2: Magnitude estimation. Ukuthi as a tensed sentential subject. ZSL ONLY.

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	336.26	146	1.84		
Level	33.10	4	6.62	3.60	.004
Within + Residual	48.01	146	.26		
Ukuthi	1.43	1	1.43	5.47	.020
Level x Ukuthi	17.28	4	3.46	13.17	.000

Table 2.1 Magnitude estimation: In-built topics. ZSL ONLY

Source Of Variation	SS	DF	MS	F	Sig Of F
Within Cells	362.66	146	1.99		
Level	.23	4	.23	1.35	.249
Within Cells	39.71	146	.22		
Pre-Expr	8.25	1	8.25	37.80	.000
Level x Pre-Expr	5.46	4	1.09	5.01	.000

Table 2.2 Magnitude estimation. Pseudo-gap topics. ZSL ONLY.

Source Of Variation	SS	DF	MS	F	Sig Of F
Within Cells	309.65	146	2.14		
Level	21.32	4	3.33	1.50	.056
Within Cells	36.22	140	.20		
Gap	2.96	1	2.96	14.70	.000
Level x Gap	11.20	4	2.24	11.13	.000
Within Cells	65.54	280	.18		
Island-Type	.08	2	.04	.22	.806
Level x Island-Type	3.54	10	.35	1.95	.038
Within Cells	67.65	280	.19		
Island-Type x Gap	6.11	2	3.05	16.25	.000
Level x Island-Type x Gap	1.66	10	.17	.88	.548

RATING TASK: ANOVA TABLES FOR THE ZSL GROUP ONLY

Table 1.1 Rating: Ukuthi complement selection: ZSL ONLY

Source Of variation	SS	DF	Ms	F	Sig of F
Within + Residual	274.24	146	1.88		
Level	62.71	4	15.68	8.35	.000
Within + Residual	173.68	292	.59		
Complement	6.31	2	3.16	5.31	.005
Level x complement	48.36	8	6.05	10.16	.000
Within + Residual	81.55	146	.56		
Ukuthi	47.82	1	47.82	85.62	.000
Level x Ukuthi	7.36	4	1.84	3.30	.013
Within Cells	154.66	292	.53		
Complement x ukuthi	2.45	2	1.23	2.32	.101
L x Comp x ukuthi	27.63	8	3.45	6.52	.000

Table 1.2. Rating Ukuthi as a tensed sentential subject. ZSL ONLY

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	126.52	146	.87		
Level	11.42	4	2.86	3.30	.013
Within + Residual	83.11	146	.57		
Ukuthi	29.27	1	29.27	51.41	.000
Level x Ukuthi	28.22	4	7.06	12.39	.000

Table 2.1. Rating: in-built topics. ZSL ONLY

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	99.29	146	.76		
Level	9.03	4	8.21	1.92	.057
Within + Residual	76.14	146	.42		
Ukuthi	14.44	1	14.44	34.71	.000
Level x Ukuthi	14.44	4	2.89	6.94	.000

Table 2.2. Rating. Pseudo-gap topics. ZSL ONLY

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	266.45	146	1.46		
Level	6.59	4	5.32	1.65	.055
Within + Residual	77.03	292	.76		
Island-type	76.42	2	38.21	.48	.067
Level x Island-type	77.34	8	7.73	10.22	.000
Within + Residual	111.71	146	.61		
Gap	2.82	1	2.82	4.62	.033
Level x Gap	15.70	5	3.14	5.14	.000
Within Cells	258.33	292	.71		
Island-type x Gap	127.46	2	63.73	90.29	.000
Level x Island-type x Gap	43.91	8	4.39	6.22	.000

ME: ANOVA TABLES FOR NEAR-NATIVE AND NATIVE SPEAKERS

Table 1.1 Magnitude Estimation. Ukuthi complementizer selection. Near-natives vs. natives

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	94.98	58	1.64		
Level	5.66	1	5.66	3.46	.068
Within + Residual	69.07	116	.60		
Complement	41.79	2	20.90	35.09	.000
Level x Complement	3.31	2	1.65	2.78	.066
Within + Residual	25.40	58	.44		
Ukuthi	18.90	1	18.90	43.16	.000
Level x Ukuthi	.56	1	.56	1.27	.265
Within Cells	94.66	116	.82		
Complement x Ukuthi	28.34	2	14.17	17.37	.000
Level x Complement x Ukuthi	2.46	2	1.23	1.51	.225

Table 1.2: Magnitude Estimation. Ukuthi as a tensed sentential subject: Near-natives vs. natives

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	109.98	58	1.90		
Level	3.81	1	3.81	2.01	.162
Within + Residual	13.94	58	.24		
Ukuthi	10.92	1	10.92	45.42	.000
Level x Ukuthi	.47	1	.47	1.97	.166

Table 2.1 Magnitude Estimation. In-built topics. Near-natives vs. natives

Source Of Variation	SS	DF	MS	F	Sig Of F
Within Cells	117.70	58	.93		
Level	.07	1	.07	.03	.853
Within Cells	9.99	58	.17		
Pre-Expr	2.86	1	2.86	16.60	.000
Level x Pre-Expr	.23	1	.23	1.35	.249

Table 2.2. Magnitude Estimation. Pseudo-gap topics. Near-native vs. natives

Source Of Variation	SS	DF	MS	F	Sig OF F
Within Cells	326.02	58	5.62		
Level	8.49	1	8.49	1.51	.224
Within Cells	7.24	58	.12		
Gap	.01	1	.01	.11	.740
Level x Gap	.29	1	.29	2.32	.133
Within Cells	14.35	116	.12		
Island-Type	.31	2	.15	1.24	.294
Level x Island-Type	.04	2	.02	.17	.840
Within Cells	10.83	116	.09		
Island-Type x Gap	.57	2	7.29	3.07	.050
Level x Island-Type x Gap	.20	2	.10	1.05	.352

RATING: ANOVA TABLES FOR NEAR-NATIVE AND NATIVE SPEAKERS

Table 1.1. Rating: Ukuthi complementizer selection. Near-native vs. natives.

Source Of variation	SS	DF	Ms	F	Sig of F
Within + Residual	94.98	58	1.64		
Level	5.66	1	5.66	3.46	.068
Within + Residual	69.07	116	.60		
Complement	41.79	2	20.90	35.09	.000
Level x complement	3.31	2	1.65	2.78	.066
Within + Residual	25.40	58	.44		
Ukuthi	18.90	1	18.90	43.16	.000
Level x Ukuthi	1.56	1	.56	1.27	.265
Within Cells	94.66	116	.82		
Complement x ukuthi	28.34	2	14.17	17.37	.000
L x Comp x ukuthi	2.46	2	1.23	1.51	.225

Table 1.2. Rating: Ukuthi as a tensed sentential subject: Near-native vs. natives

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	173.94	58	.95		
Level	13.43	1	2.69	2.83	.018
Within + Residual	107.60	58	.59		
Ukuthi	66.60	1	66.60	113.27	.000
Level x Ukuthi	59.15	1	11.83	20.12	.000

Table 2.1. Rating: In-built topics. Near-native speakers vs. natives

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	139.29	58	.76		
Level	9.03	1	8.21	2.92	.046
Within + Residual	76.14	58	.42		
Pre-expr	14.44	1	14.44	34.71	.000
Level x Pre-expr	14.44	1	2.89	6.94	.000

Table 2.2. Rating: Pseudo-gap topics. Near-native speakers vs. native speakers.

Source Of Variation	SS	DF	Ms	F	Sig Of F
Within + Residual	96.45	58	1.46		
Level	6.59	1	5.32	2.65	.044
Within + Residual	77.03	116	.76		
Island-type	76.42	2	38.21	.48	.067
Level x Island-type	77.34	2	7.73	10.22	.000
Within + Residual	31.71	58	.61		
Gap	2.82	1	2.82	4.62	.033
Level x Gap	15.70	1	3.14	5.14	.000
Within Cells	94.55	116	.71		
Island-type x Gap	27.46	1	63.73	90.29	.000
Level x Island-type x Gap	43.91	2	4.39	16.22	.000